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Pugwash

NEWSLETTER

*issued by the Council of the Pugwash
Conferences on Science and World Affairs
Nobel Peace Prize 1995*



*53rd Pugwash Conference on Science and World Affairs
Halifax and Pugwash, Nova Scotia, Canada, July 2003*

Volume 40 ■ Number 2 ■ December 2003

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Pugwash

Volume 40 ■ Number 2
December 2003

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To the Pugwash Community

The 53rd Conference brought 172 scientists and scholars from 39 countries to Halifax Canada for a conference with a familiar format, and at the same time it was unique in its stimulation of both an intellectual response and a heartfelt intensity in relation to its theme “Advancing Human Security: The Role of Technology and Politics.” The Canadian Pugwash Group, with 30 attendees, was delighted with its role as host, and the chance to have first meetings with new Pugwashites at the airport, in the university residences, at meals and, of course, in the conference venues at Dalhousie University.

Evidence of our success at fostering the right conference ambience is found in the following sample comment “I have benefited a lot in meeting and having introduction to different professors around the world and their diverse views. I found flexibility and responsibility among the participants which made me impressed. Indeed this sort of gathering will have great impact on global security affairs. I am also impressed with the working system of Pugwash and its background. As a new member, I am proud of it and will do my best to achieve its aims.”

The opening session of the conference heard a welcoming address by Senator Douglas Roche, O.C., Chair, Canadian Pugwash Group, and then received the report of Secretary-General Paolo Cotta-Ramusino. The support of the host country is demonstrated by several means, the most visible of which is the participation of senior government officials. The Hon. Susan Whelan, Minister of International Cooperation, gave the keynote speech “Promoting Human Security After Conflict.” Minister Whelan chaired a lively question and answer session that lifted the

whole conference group into “discussion mode.” The first day was completed with a reception at historic City Hall. Even as the first sessions began, and throughout, we received significant media attention nationally and locally—on TV, radio and newspapers, thus raising public awareness of current issues in nuclear disarmament, missile defense, peacekeeping, terrorism, human development and environmental change.

Eminent speakers addressed the conference through several invited lectures. Dr. Jayantha Dhanapala, (former) Undersecretary-General of the United Nations for Disarmament Affairs, gave the

Dorothy Hodgkin Lecture, a central event of the Conference. Professor M.S. Swaminathan, President of Pugwash Conferences, world leader in agricultural plant genetics and the head of the research institute bearing his name, at Chennai, India gave the President’s lecture on the topic of sustainable food security. The closing dinner was addressed by Chris



Halifax waterfront.

Bryant, Dept. of Economic Development, Nova Scotia on the topic “All Security is Local.” Professor Sir Joseph Rotblat, Nobel Laureate and founder of the Pugwash movement, gave the Public Forum lecture on the topic “The Nuclear Issue: Pugwash and the Bush Policies.” It was a night to remember, as Jo Rotblat received a standing ovation for his incisive analysis of the current problems in nuclear disarmament. Through media interviews, many others had a chance to hear his views, and all of us admired his stamina and patience for interviews in the face of a very full schedule.

The entire conference convened in Pugwash, Nova Scotia at Thinkers Lodge, the place of origin, on a day

53rd Pugwash Conference

billed as “Back to Pugwash.” It was a high point for many who had spent years in the Pugwash movement, because very few of the Pugwashites had ever seen Pugwash. The conference grew too large for the original venue after only a couple of years from its first meeting in 1957, at which there were 22 scientists from 10 countries. Jo Rotblat and Ruth Adams, representing the

1957 group, both addressed the crowd, seated on the lawn, with the sea in the background. An open plenary session was held at the local high school, and as we boarded the buses after the elegant final reception at the Thinkers Lodge, it was not hard to see that many felt reluctant to leave. For a day to remember, all Pugwashites attending would undoubtedly be glad to join us in thanking the Pugwash Park Commission for arranging such a fine event.

The ultimate goal for this specific Conference was to advance human security by dialogue with stakeholders, and by new viewpoints that would strengthen Canada and the global community in their ability to respond to threats to human security. The Pugwash Conferences are ongoing; because of this continuity, the impact level sought for the conference is enhancement of the freedom and safety of citizens. The conference outcomes, as seen in the Working Group Reports, and the various speeches of the conference, are on the website www.pugwash.org, thus enabling the possibility of a wide readership.

A number of Working Group papers were very significant, and from those, we have selected a representative



Standing: Raymond Szabo, Bryan Jamieson, Margaret Eaton, Giovanni Brenciaglia. Sitting: M.S. Swaminathan, Joseph Rotblat, Ruth Adams, Patrick Boyer

group that, we believe, has enduring value. Many excellent papers were presented, but are not seen in this newsletter due to space limitations. We particularly commend the ISYP members for their mature and insightful contributions to the WG discussions, and presented papers. One of the six papers, the one from WG6 is from a student contributor.

Only with financial contributions and the work of many volunteers and staff can we proceed with the annual Pugwash Conference on Science and World Affairs. For the 53rd Conference, we gratefully acknowledge the support received from several Canadian government agencies, private foundations, and friends of Pugwash:

Department of Foreign Affairs and International Trade (DFAIT); Peacebuilding and Human Security Division; Canada International Development Agency (CIDA); Conference Secretariat; Social Sciences and Humanities Research Council (SSHRC); Province of Nova Scotia; Regional Municipality of Halifax; Cyrus Eaton Foundation; Ploughshares Fund; Cut Foundation; Nancy Ruth; Anonymous; Resource and Conflict Analysis Inc.; Post-Communist Studies, York University; University College of Cape Breton; International Pugwash; Canadian Pugwash Group; Members of Canadian Pugwash.

To all who made the effort to come to Halifax, Nova Scotia, Canada, we say thanks and hope you will come again.

In peace,

Adele Buckley, Chair, Halifax Conference Committee

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

Welcome Address

*By Senator Douglas Roche, O.C., Chairman,
Canadian Pugwash Group*

I am honoured, on behalf of the Canadian Pugwash Group, to welcome everyone to the 53rd Pugwash Conference on Science and World Affairs: “Advancing Human Security: The Role of Technology and Politics.”

I give a special welcome to the President of Pugwash, Professor M.S. Swaminathan; the Secretary-General, Professor Paolo Cotta-Ramusino; the Executive Director, Dr. Jeffrey Boutwell; and the Chair of the Pugwash Council, Professor Marie Muller, as well as all my colleagues on the Pugwash Council.

Dalhousie University, Halifax, Nova Scotia, and Canada greet you warmly and we hope that your stay at this conference will be pleasant and productive. The outstanding work of Adele Buckley and the Halifax Planning Committee have prepared an excellent program for you.

Only once before, in 1981 in Banff, Alberta, has Pugwash held its annual conference in Canada. The 22 years that have elapsed have seen many changes. The Cold War, during which Pugwash first brought Soviet and American scientists together, has ended. Russia has entered the halls of

NATO. The Non-Proliferation Treaty has been indefinitely extended.

But the one change that Pugwash stands for, the one change the seeking of which won for Sir Joseph Rotblat and Pugwash the 1995 Nobel Peace Prize, the one change directed by the International Court of Justice, the one change called for by a myriad of United Nations resolutions, the one change yearned for by millions around the world—the abolition of nuclear weapons—has not happened.

At the 1981 Conference in Banff, calls were made for a nuclear freeze and to eliminate tactical nuclear weapons from Europe. Afterwards, the Pugwash Council said clearly: “It is a fallacy to believe that nuclear war can be won.” Leaders of the nuclear powers were urged to explicitly deny military doctrines which legitimize limited nuclear warfare. The Council of the day looked outward at the growing human needs for security and declared: “The investment in arms is non-productive and diverts badly needed resources from a nation’s capacity to meet human needs and for development.”

If the Pugwash words were prescient in 1981, they are compelling today. For, the end of the Cold War

notwithstanding, the world is moving to new levels of danger.

A few weeks ago, the Mayor of Hiroshima, Tadatosh Akiba, warned: “We stand today on the brink of hyper-proliferation and perhaps of repeating the third actual use of nuclear weapons.” A few days ago, Amnesty International, in its annual report, said the world has become a more dangerous place: “The war on terror, far from making the world a safer place, has made it more dangerous by curtailing human rights, undermining the rule of international law, and shielding governments from scrutiny.”

These are not cheery forecasts for humanity. We in Pugwash do not belong to the “gloom and doom” school, neither do we believe in ignoring warning bells.

September 11, 2001 was certainly such a warning bell for humanity. Terrorism is growing. We must not only deal with terrorism but also examine the whole canvas of violence in the world. The division of the world into rich and poor, the hegemony of the powerful over the vulnerable, the retention of nuclear weapons by some while proscribing their acquisition by others—all this is de-stabilizing the world at the very moment society should be concentrating its energies on building a culture of peace.

Pugwash does believe a culture of peace is possible. The gathering



Sen. Douglas Roche welcomes conference participants.

forces of civil society may one day bring it about. Pugwash offers the world that hope.

Indeed, the Pugwash Mission Statement affirms that our purpose is to bring scientific insight and reason to bear on threats to human security arising from science and technology in general, and above all from the catastrophic threat posed to humanity by nuclear and other weapons of mass destruction. The Pugwash agenda extends to ways of alleviating the conditions of economic deprivation, environmental deterioration and resource scarcity and exploitation that so readily give rise to resentment, hostility and violence throughout the world. This noble work is inspired by the Russell-Einstein Manifesto of 1955, which called upon leaders of the world to renounce nuclear weapons and “remember their humanity.”

Last year, at the La Jolla Conference, the goals for Pugwash’s Tenth

Quinquennium, 2002-2007, were set down. The very first words of this stirring call to action speak of “the overriding peril” to humanity by the vast destructive power of nuclear weapons, and the increased threat due to proliferation. The listing of the new dangers and the new strain the non-proliferation regime is under are sobering. Thus the Pugwash goal of reducing and eliminating the nuclear peril will be more important than ever in the Tenth Quinquennium.

The Goals Document challenges each one of us: “Pugwash is strongly committed to the goal of abolishing all nuclear weapons. It is imperative that Pugwash constantly remind the international community of the immorality, illegality, and peril inherent in nuclear weapons, and to propose concrete steps toward their elimination.”

The Pugwash agenda also pays attention to increasing the effectiveness of the Chemical Weapons Con-

vention and the Biological and Toxic Weapons Convention. Conventional weapons, too, ranging from small arms to antipersonnel mines to new high-technology weapons are of deep concern to Pugwash. From weapons of mass destruction to new developments in biotechnology and other sciences, Pugwash accepts the responsibility to stress the ethical and moral responsibility of scientists to further the beneficial applications of their work and prevent their misuse.

Almost by definition, Pugwash must look into the future to help guide the formulation of the public policy process. That is why it is so important to have young Pugwashites among us. We must enlarge not only the Student Pugwash membership but the ways Pugwash as a whole can reach out to new generations of scientists, academics, analysts, and policy-makers.

Our work at the Halifax Conference is cut out for us. We are here for the most serious of purposes: to contribute to the safety and human security of the world around us.

I think it will be hard to exceed the inspiration that awaits us on our trip Sunday to the Thinkers’ Lodge in Pugwash, Nova Scotia. This is “where it all began.” The vision of Cyrus Eaton in bringing the first Pugwashites to the Thinkers’ Lodge has flowed through to today. Patrick Boyer, Giovanni Brenciaglia and the Pugwash Parks Commission have prepared an outstanding program for you. You have a treat in store.

Welcome again. We are thrilled to have you in our midst. Enjoy the Canadian hospitality.

Let the conference begin.

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

Statement of the Pugwash Council

22 July 2003, Halifax, Nova Scotia

The Pugwash Council, meeting during the 53rd Pugwash Conference held in Halifax and Pugwash, Nova Scotia, is extremely concerned that the dangers posed by nuclear weapons are increasing the risk of a nuclear catastrophe. Widening cracks in the nuclear non-proliferation regime, the deadlock in nuclear arms control, renewed interest in nuclear war-fighting strategies, inadequate measures to control and dispose of fissile materials, the near term deployment of missile defenses and the prospect of weapons in space, all point to the very real possibility of nuclear weapons being used, whether in conflict, by miscalculation or accident, or by terrorists.

Of equal concern to the Council, and directly related to the militarization of global affairs spawned by the so-called 'war on terrorism,' are the marginalization of international institutions, especially the United Nations, the diversion of resources away from meeting challenges to global sustainability, and a weakening of fundamental civil liberties and basic human security protections. The illegality under international law of the war on Iraq, and the disdain of the US administration for seeking security through multilateral mecha-

nisms, are an indication of the serious challenges faced by the international community in commonly protecting human security.

The world today must acknowledge, confront, and overcome the current paralysis engendered by 'the banality of nuclear weapons.' In the same way that a 'banality of evil' made possible the holocaust of the Final Solution, so now has public acquiescence to the continued primacy of nuclear weapons in world affairs, almost 60 years after their catastrophic effects were demonstrated at Hiroshima and Nagasaki, made more likely a nuclear holocaust.

The world's peoples will not, of course, be directly responsible for such a catastrophe if it happens, but they will be its primary victims. Those responsible will be the leaders of countries who have failed to recognize that nuclear weapons represent the single, largest danger to the security of the international community.

Primary among these is the current US administration, which has abdicated its moral responsibility as the world's strongest power in not taking the lead to rid the world of nuclear weapons. To the contrary, the US administration has declared its intention of relying on nuclear weapons as a core component of US

national security for the indefinite future. This and other US policies run directly counter to the full implementation of the thirteen practical steps it and other nuclear states agreed to during the Non-Proliferation Treaty (NPT) Review Conference held in 2000, as well as to its obligations under Article VI of the NPT to work for the elimination of nuclear weapons. Inter alia, the US administration is exploring the development of new nuclear weapons, may well resume nuclear testing, has withdrawn from the 1972 ABM Treaty and will shortly deploy missile defenses (of dubious military value), and seems committed to violating the non-weaponized environment of outer space by deploying a space weapons test-bed by 2008. Without a 180 degree reversal of US nuclear weapons policies, there is no chance of eliminating the incentives of other countries to acquire nuclear weapons and abolishing such weapons entirely.

This failure of American leadership by no means absolves a large number of other countries and governments from their failure to act decisively to eliminate the nuclear threat.

The withdrawal by North Korea from the Non-Proliferation Treaty and uncertainties over its nuclear aims is a major cause of international concern. Through urgent negotiations and international diplomacy a commonly satisfying agreement can be

found between the main regional powers, in which North Korea receives security and non-aggression guarantees while renouncing in a verifiable manner, once and for all, its capability to acquire nuclear weapons.

In the Middle East, the continued existence of Israel's nuclear weapons and ambiguity over Iran's intentions regarding its nuclear infrastructure and the IAEA additional protocol complicate efforts to achieve true regional peace and stability and create a region free of weapons of mass destruction.

In South Asia, the two newest nuclear weapons states, India and Pakistan, need to resolve their long-standing conflict over Kashmir and cross-border terrorism while moving decisively to reduce the nuclear threat between them.

The other four original nuclear powers—Russia, the United Kingdom, France, and China—continue to rely on nuclear weapons for deterrence despite the inherent dangers of doing so. Similarly, the members of NATO exhibit an irrational attachment to US nuclear weapons as part of NATO strategy, at a time when NATO faces no threat and can have no reason for a military strategy

incorporating nuclear weapons.

In a world where many governments often emphasize exhortation over concrete action in the pursuit of a world free of nuclear weapons, Pugwash supports the important contribution to the strengthening of the Non-Proliferation Treaty made by the New Agenda Coalition and urges even stronger dialogue between the New Agenda countries and the nuclear weapons states.

In seeking to mobilize world public opinion to demand concrete and immediate steps to reverse current developments that threaten the use of nuclear weapons, the Pugwash Council feels it imperative that global action be undertaken to exert all possible pressure on governments to act in concert to rid the world of nuclear weapons.

Human security for the world's peoples is at greater and greater risk. The large majority of them continue to face unacceptable depredation in their access to water, food, health care, resources, and basic security. Intensive international cooperation, especially between industrial and developing countries, is needed to redress these imbalances, many of which contribute directly to human insecurity and conflict. As noted dur-

ing the 53rd Pugwash Conference, new technologies hold out both promises and challenges in the sustainable use of resources and the use of new biotechnologies in agriculture, medicine and other fields. In all such endeavors, it is crucially important for scientists to remember their individual responsibility regarding the beneficial applications of their work in promoting true human security for all individuals.

All such improvements in the human condition, however, will be for naught if a nuclear catastrophe occurs. The world stands on the knife-edge of the nuclear dilemma. Will it myopically continue to accord nuclear weapons a primary role in world politics and face the ultimate threat of nuclear devastation, or will the global community stand up, say no, and take the necessary action to at last rid the world of the prospect of nuclear annihilation?

Between now and the 2005 NPT Review Conference, the international community has the opportunity to move decisively away from a continued and dangerous reliance on nuclear weapons. Progress toward achieving the 13 practical steps agreed to in 2000, as well as the entry into force of the Comprehensive Test Ban Treaty, accelerated reductions in US and Russian nuclear forces beyond what is called for in the May 2002 Moscow Treaty, improved accounting for and control of fissile material, reductions in tactical nuclear weapons, and solutions to regional nuclear crises, all would contribute to moving the world away from the catastrophic dangers to human security inherent in a continued misplaced reliance on nuclear weapons for national security.



Pugwash Council meets with International Student/Young Pugwash.

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

MONDAY, JULY 14

19:00-22:00 International Student/Young Pugwash (ISYP) Board Meeting

TUESDAY, JULY 15

14:30-17:30 ISYP Symposium “The Role of the UN after the Iraqi Crisis”

19:30-21:00 ISYP Working Groups A and B

WEDNESDAY, 16 JULY

09:00-12:30 Pugwash Council Meeting/ISYP Conference

14:30-17:30 Pugwash Council Meeting/ISYP Conference

THURSDAY, 17 JULY

09:00-11:30 Pugwash Council Meeting/ISYP Conference

11:30-12:30 Pugwash Council members meet with ISYP Pugwash

14:00-15:30 **PLENARY SESSION 1** [Closed] (McCain Building, Scotiabank Auditorium) Chair: **Douglas Roche**
Welcoming address by Chair of Canadian Pugwash Douglas Roche
Report of Pugwash Secretary General Paolo Cotta-Ramusino

16:00-17:30 **PLENARY SESSION 2** [Open]
Chair: **M.S. Swaminathan**
Keynote Speaker: Hon. Susan Whelan, Minister of International Cooperation

18:00-19:00 Reception: City of Halifax —City Hall
Remarks: Mayor Peter Kelly
Response: Sec.-Gen. Paolo Cotta Ramusino

FRIDAY, 18 JULY

09:00-12:30 Working Groups 1-6 meet (McCain Building)

14:30-18:00 Working Groups 1-6 meet

20:00-22:00 **PUBLIC FORUM** (McCain- Ondajtee Auditorium) [Open] Chair: **Marie Muller**
Speaker: **Sir Joseph Rotblat, President Emeritus—Pugwash (UK)**

SATURDAY, 19 JULY

09:00-12:30 Working Groups 1-6 meet

14:00-15:30 **PLENARY SESSION 3** [Open] Chair: **Jeffrey Boutwell**
Human Security and the Middle East
Speakers: **Galia Golan (Israel), Gabriel Baramki (Palestine), Mohamed Kadry Said (Egypt)**

53rd Pugwash Conference

- 16:00-18:00 **PLENARY SESSION 4** [Open] Chair: **Paolo Cotta-Ramusino**
Eliminating the Threat of Nuclear Weapons
Speakers: **Miguel Marin-Bosch** (Mexico), **Pan Zhenqiang** (China), **John Holdren** (USA)
- 18:00-19:00 Pugwash Council meets representatives of National Pugwash Groups

SUNDAY 20 JULY

- 10:00-11:30 Reception at Thinker's Lodge, Pugwash, Nova Scotia
Introduction and welcoming address by **Patrick Boyer**
Pugwash: past and present history, comments by **Joseph Rotblat**, **Ruth Adams**
- 11:30-12:30 Tours of Thinkers' Lodge
- 12:30-13:30 Lunch at Pugwash District High School & Joseph Rotblat Hall
- 14:30-16:15 **PLENARY SESSION 5** [Open] Pugwash District High School
Chair: **Ochieng Adala** (Kenya)
Cooperative Security and the Future of Multinational Institutions
Speakers: **Robert Lawson** (Canada), **Jayantha Dhanapala** (Sri Lanka), **Vladimir Baranovski** (Russia), **Steven Miller** (USA)
- 16:30-17:30 Closing Reception at Thinkers' Lodge
- 17:30 Departure by bus for dinner at Truro (enroute to Halifax)
- 18:30-20:00 Dinner at Truro
- 20:00 Departure for Halifax

MONDAY, 21 JULY

- 09:00-10:30 **PLENARY SESSION 6** [Closed] Chair: **Anne McLaren** (UK)
Reports on Working Groups 1, 2, 3
- 11:00-12:15 **PLENARY SESSION 7** [Open]
Chair: **Douglas Roche**
Dorothy Hodgkin Lecture by **Jayantha Dhanapala** (Sri Lanka)
- 14:00-15:30 **PLENARY SESSION 8** [Closed]
Chair: **Adele Buckley**
Reports on Working Groups 4, 5, 6
- 16:00-18:00 **PLENARY SESSION 9** [Open]
Chair: **Pervez Hoodbhoy**
Presidential Lecture
by **M.S. Swaminathan**
Final remarks by **Paolo Cotta-Ramusino**, **Jeffrey Boutwell**
- 18:30-21:30 Reception and Closing Banquet (University Club) M.C.: **Adele Buckley**
Banquet Speaker: **Chris Bryant**, Department of Economic Development, Nova Scotia
Downeast Entertainment: Background music and half hour performance

TUESDAY, 22 JULY

- 09:00-12:30 Pugwash Council Meeting
- 14:00-16:00 Pugwash Council Meeting

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

Working Groups

WG1: NUCLEAR WEAPONS

Status of and prospect for nuclear disarmament.
Prospects for the 13 steps decided at the 2002 NPT
Review Conference

Recent developments in nuclear proliferation

Current strategies and postures of nuclear-armed states.
No first use

WG2: WEAPONIZATION OF SPACE AND MISSILE DEFENSE

Missile defense and space weapons

Weaponization of space and its impact on civil activities

Preserving the non-weaponization of space

WG3: INTERNATIONAL COOPERATION AND HUMAN SECURITY

Role of international institutions in the prevention of
armed conflict. Civilian protection and humanitarian
assistance

Multilateral actions and unilateral initiatives

Post-conflict reconstruction; governance; assistance to
democratization

WG4: TERRORISM

Terrorism: its roots and its divisive effects on the world
community

Technology and the prevention of terrorism.
Antiterrorism and limitation of civil liberties

Preventing terrorists from obtaining weapons of mass
destruction

WG5: NEW TECHNOLOGY FOR HUMAN DEVELOPMENT AND SECURITY

Communications, monitoring and information
technology for human protection

Agricultural biotechnology

International cooperation to promote equity in human
development

WG6: MITIGATION OF GLOBAL ENVIRONMENTAL CHANGE

Advances in modeling and long-term global energy trends

Initiatives and technology to limit human-induced global
changes

Access to and availability of energy, water, food

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

REPORTS OF THE CONFERENCE WORKING GROUPS

Report on Working Group 1

Nuclear Weapons

Co-conveners: Dr. Jo Husbands (USA) and General Pan Zhenqiang (China)

Rapporteur: Dr. Bob van der Zwaan (The Netherlands)

Introduction

Today, the nuclear non-proliferation and disarmament process faces its greatest challenge since the end of the Cold War. With the increasingly urgent danger of regional nuclear proliferation, and with a US Administration that has shifted from its earlier nuclear policy, in which nuclear weapons were regarded as weapons of last resort, to one in which it may use nuclear weapons for preemptive purposes—also in cases of non-nuclear threats and against non-nuclear weapon states—the nuclear non-proliferation regime is currently in a profound crisis.

As participants of Working Group 1, we want to draw renewed attention to the present nuclear disarmament deadlock, and, while emphasizing the need to imminently find regional solutions for the world's most worrisome nuclear emergencies, we point out that increasing urgency exists to seek a universal elimination of nuclear weapons. Mankind therefore ought to address without delay the lack of progress in solving these nuclear threats.

Next steps for non-proliferation and disarmament

In concreto, achieving full implementation of the 13 practical steps agreed upon at the NPT Review Conference in the year 2000 is essential. In particular, a number of actions should be undertaken with high priority. Strategic nuclear arms agreements between the Russian Federation and the US, in particular the May 2002 'Moscow Treaty', should be promptly implemented and expanded. Reduced warheads and their delivery systems should be dismantled irreversibly in a transparent and verifiable manner. Remaining deployed Russian and US nuclear forces should be de-alerted to further reduce the operational status of nuclear weapons systems. The entry into force of the CTBT should be achieved, and until that time the moratorium on nuclear testing should be strictly observed. A process of improved accounting for and control of fissile materials holdings should be created on a worldwide basis. Negotiations should be commenced on a fissile materials production ban and reduction plan, and the

role and capacity of the IAEA in these matters must be strengthened.

Furthermore, the recent US trend towards expansion of the options for usage of nuclear weapons should be reversed, especially their use against non-nuclear weapon countries, as unambiguously allowed in its Nuclear Posture Review. Countries in both bilateral and multilateral security alliances with the US, which include policies allowing the first use of nuclear weapons, must resolve the tension between these policies and their NPT obligations.

Low-yield and tactical nuclear weapons

The development of new or modified nuclear weapons should be renounced as contrary to the 2000 NPT Review Conference commitment to a diminishing role of nuclear weapons in security policies and the NPT article VI obligation of a cessation of the nuclear arms race. Current US movement towards the development of low-yield nuclear weapons, as well as the concurrent evolution of the designing of ever more powerful conventional weapons, could blur the distinction between nuclear and conventional weapons, and could render nuclear weapons more usable. Once the development of low-yield nuclear weapons reaches its test phase, a collapse of the global testing

moratorium of nuclear weapons is likely to follow, and perhaps even that of the entire NPT regime itself.

For these reasons, the development of low-yield nuclear weapons constitutes a significant menace to the present non-proliferation regime. The prevention of the development of low-yield nuclear weapons is to be included in future non-proliferation efforts. Also existing tactical nuclear weapons should be included in future nuclear disarmament negotiations. In particular, US tactical nuclear weapons deployed under NATO auspices in Europe should be unilaterally removed, and a wider process of reduction of US and Russian tactical nuclear weapons should be created.

Regional crises

The current crisis on the Korean peninsula constitutes one of the most urgent nuclear threats the world faces today. While the US – North Korean deadlock is profound and intricate, we believe that finding a sustainable and peaceful solution to the present dilemma is not only possible but also imperative. Through urgent negotiations and international diplomacy a commonly satisfying agreement can be found between the main regional protagonists, in which North Korea is given the security and non-aggression guarantees it desires, while renouncing in a verifiable manner once and for all its endeavors to acquire nuclear weapons. In the longer run, a gradual process of consensus building should lead to a Peace Treaty.

Similarly in other parts of the world, regional approaches to nuclear non-proliferation should be realized

that are embedded in the broader political context of the region under consideration. More nuclear-weapon-free-zones should be established covering territories as large as possible. In particular, nuclear non-proliferation should be integrated in regional conflict resolution and confidence building measures in the Middle East and South Asia. Such regional and step-by-step approaches could initiate a process towards the universal elimination and abolition of nuclear weapons.

Nuclear relations

During the Cold War, global nuclear relations rested on two mutually supportive arrangements: the elaborate structure of nuclear deterrence and the non-proliferation regime. A rough equality of military power was measured in terms of assured mutual destruction, while uneven distribution of military nuclear capabilities assured a rank ordering among nuclear weapon powers. This balance of terror created a semblance of order, based primarily on the unprecedented common interest of all states in avoiding a nuclear holocaust. Thanks to the NPT, nuclear weapon and non-nuclear weapon states found a common ground in averting the spread of nuclear weapons with all undertaking respective obligations.

Today, the situation has fundamentally changed. The US no longer sees nuclear arms control as an essential part of its nuclear policy and is instigating substantial changes in the nuclear non-proliferation regime. Considerable unease exists about combining the campaign against terrorism with preventive or preemptive

counter-proliferation. With possibilities of a nuclear response to chemical or biological attack, a danger now exists of a further abuse of nuclear weapons. Nuclear war has been avoided so far largely because of the taboo against the military use of nuclear weapons during each successive decade of the nuclear era. Any such use in the future would destroy whatever remains of that taboo.

Nuclear awareness

Strengthening public awareness about the dangers inherent in nuclear weapons may contribute to a greater international effort for nuclear non-proliferation and disarmament. For many, the end of the Cold War implied the end of the nuclear threat. The lack of public concern regarding the continuously existing and probably increasing nuclear threat, however, contrasts starkly with the way international events have moved over the past few years. Efforts to convince the public that nuclear weapons pose a dangerous liability for mankind need greatly enhanced. An international public information effort is needed to raise nuclear weapons higher up the political agenda, to a level where governments will have to engage in the debate and be responsive to a growing body of public opinion that is opposed to the possession and threatened use of nuclear weapons. Heightened awareness should also be realized of the threat of terrorist use of nuclear devices and materials, or terrorist attacks against nuclear facilities, including those related to the civil nuclear power industry.

It is not easy to see an immediate way forward for an effective public

information program that may clarify the need for a process towards the universal elimination of nuclear weapons. One message seems to be clear, however: it *is* important to remind everyone of the constant nuclear threat and the horrifying consequences of the use of nuclear weapons. Whereas the crisis in the nuclear non-proliferation and disarmament process is enormous, we think that positive ways exist out of the current perilous situation. Much more thought and effort are needed to try to escape from today's nuclear crisis. The Pugwash Conferences on Science and World Affairs can play a unique role in both educating and providing expertise information.

Concise summary

- With the increasingly urgent danger of regional nuclear proliferation, and with a US Administration that has shifted from its earlier nuclear policy, in which nuclear weapons were regarded as weapons of last resort, to one in which it may use nuclear weapons for preemptive purposes, the nuclear non-proliferation regime is currently in a profound crisis.
- Achieving full implementation of the 13 practical steps agreed upon at the 2000 NPT Review Conference is essential.
- A process of improved accounting for and control of fissile materials holdings should be created on a worldwide basis, while negotiations should be commenced on a fissile materials production ban and reduction plan, and the role and capacity of the IAEA herein must be strengthened.
- The development of low-yield

nuclear weapons constitutes a significant menace to the present non-proliferation regime and its prevention should therefore be included in future non-proliferation efforts, while a reduction of tactical nuclear weapons should be included in future disarmament negotiations.

- Through urgent negotiations and international diplomacy a peaceful solution and commonly satisfying agreement can be found between the main regional protagonists in the crisis on the Korean peninsula, in which North Korea is given the security and non-aggression guarantees it desires, while renouncing in a verifiable manner once and for

all its endeavors to acquire nuclear weapons.

- Similarly in other parts of the world, regional approaches to nuclear non-proliferation should be realized on the way towards universal elimination of nuclear weapons, and, in particular, nuclear non-proliferation should be integrated in regional conflict resolution and confidence building measures in the Middle East and South Asia.
- Strengthening public awareness about the dangers inherent in nuclear weapons may contribute to a greater international effort for realizing nuclear non-proliferation and disarmament.

Report on Working Group 2 *Weaponisation of Space and Missile Defence*

Co-Conveners: John Rhinelanders (USA) and Rebecca Johnson (UK)

Co-Rapporteurs: Will Marshall (UK), Robert Schingler (USA) and George Whitesides (USA)

Introduction and Working Group Focus

The Working Group on *Weaponisation of Space and Missile Defence* was composed of 22 members from 11 countries (including 6 members from the International Student Young Pugwash). This report of the working group is the sole responsibility of the rapporteurs, and while there was a high level of consensus in the group, this does not necessarily represent consensus on all points.

The majority of the discussion was focused on continuing efforts on the prohibition of space weapons as instigated during the 52nd Pugwash Conferences in La Jolla and the First Annual workshop on *Preserving the*

Non-Weaponisation of Space held in Castellón de la Plana, Spain in May 2003. The threat assessments, underlying motivations and arguments concerning missile defence (MD) and the potential weaponisation of space were not discussed in detail here since they were well covered in Castellón, although the workshop briefly considered two papers from participants on regional debates and implications of missile defense, which focused on North-East Asia and Britain respectively.

Missile Defence

In general, it was agreed that developments in missile defenses could have major effects on international

and regional security and that many components in the currently proposed multi-tiered, layered system are technologically far from proven.

Firstly, we discussed that the effects on regional security must be rigorously analysed by each individual country invited to join. It was argued that the development of missile defense could create a new regional missile arms race in the Korean Peninsula, Japan, China, and Taiwan region. The practical application of missile defense was debated in the context of international stability and world order, and concerns were raised that with the current direction under the leadership by the United States, ballistic missile defences (BMD) could be detrimental to overall security.

A useful paper on the revolution in military affairs (RMA) led to consideration of the relationship between RMA, increased reliance on space assets in a military context, and the ideological commitment of the Bush administration to space control and the development of missile defense systems. An important linkage between the missile defense debate and the weaponisation of space is the intended US deployment of a testbed for space-based interceptors in 2008. This is seen as the nearest term threat to the status quo of no weapons in space. It was noted that while both the issues of missile defense and space weapons are exceedingly important, each needs to be addressed in different ways. In considering the regional and international merit and disadvantages of missile defense, attention must be given to alternative mechanisms and arrangements for addressing missile threats, controls,

and non-proliferation. One main recommendation was for Pugwash to initiate regional discussions on the impact of missile defense for specific regions.

While recognising that a growing number of states, including NATO, were being drawn into discussions on BMD collaboration, it was noted that there was a need for more information to inform public debate on the issue, and that the costs appear to be out of proportion with the threats from missiles and the capabilities of MD systems to aid national security.

Space Security

Following on from the more general discussions in Castellón, the workshop chose to focus specifically on short and medium term initiatives currently being undertaken, and consideration of roles for Pugwash and its members. The discussions developed a working objective, as follows: *Pugwash should seek to facilitate incremental steps leading to a comprehensive space security architecture to ensure the peaceful uses of space.* Initiating this discussion, we heard from the Canadian Department of Foreign Affairs and International Trade (DFAIT), which has been working with international experts to develop a knowledge base to facilitate constructive dialogue on the issue of the weaponization of space. This dialogue has evolved to be in the context of 'space security,' and is defined to be the 'equitable, sustainable, and secure use of and access to space and freedom from space-based threats'. There is development of a Space Security Index aimed to be a research-based trend analysis that provides a net assessment of the col-

lective progress, or lack of progress, towards space security. The Canadian Space Security Index is envisaged to measure twelve indicators within three themes of space security; space environment (e.g. space debris, allocation of orbital slots), the intentions of space security actors (e.g. space military doctrine) and capabilities of space security actors (e.g. launch capabilities, ASAT, space weapon capabilities).

Space Security Strategy

A considerable amount of time was spent on widening discussion of the strategy initiated in the Castellón workshop, and identifying specific actions for moving forward (see also the key papers from the workshop on the Pugwash website). In this regard, it was felt that Pugwash could play an important role in increasing the knowledge base and the public and political salience of space security. The strategy for preserving the non-weaponization of space is to start with three themes, which need to interact in parallel: continue to build the knowledge-base and increase salience; stopping financial resources via the US Congress toward the 2008 space weapons testbed; and working on incremental confidence building and regulation steps, while laying the groundwork for comprehensive international agreements within the space security architecture. The following outlines the three main themes in greater detail:

1. Increase the knowledge base

- Space Security Index (see above)
 - Coordinate a network of experts on space, especially from the scientific community, in order to



Members of Working Group 2.

facilitate the Space Security Index (SSI) and fulfill specified research and analysis needs

- Produce publication on space security to collate the knowledge base gathered in the SSI.
- Increase Salience
 - Networking: reaching out to public, space scientists and space users
 - Reach out to space scientists who are under represented in Pugwash
 - Encourage development of a Space Security Bulletin to inform space community on recent news
 - Co-convene a conference with Pugwash and Committee on Space Research (COSPAR) potentially on Space Debris
 - Reach out to commercial actors and industries using space assets and increase their awareness of the effects of the weaponization of space
 - Reach out to military community and space scientists to encourage dialogue amongst space actors and users
 - Increase public outreach through space NGOs

- Further Research and Rigorous Analysis
 - Feasibility of threats to space-based assets from ASATs launched by non-traditional space powers
 - Feasibility of a ‘Space Pearl Harbor’ scenario
 - Space Security Index
 - The hazard posed by Space Debris
 - Access to space and equity
 - Costs and Benefits of space weapons
 - The impact of space weapons on the commercial space sector

2. Political Initiatives towards prohibition of space weapons

- Major goal is to make sure that there is no US test-bed deployed by 2008
 - Engage the US Congress in dialogue to cut spending from space weapons development prior to a critical debate
 - To convene a roundtable or workshop to improve the understanding of the issue amongst politicians.

3. Laying the groundwork for a comprehensive space security approach

- Discussions with US Military, Congress and the White House
- Increase the visibility of existing as well as new research and reports
- Research into verification for potential agreements
- High-profile spokespeople for public attention
- International space security summit
- Consider the pros and cons of advocating a moratorium on no first testing, deployment or use of space weapons
- A timeline for political/legal initiatives
 - On-going work on CBMs (debris management, compliance issues, etc.)
 - Track II initiatives
 - Increase number of parties to the Outer Space Treaty (OST) towards universalisation
 - UNGA resolution to multilateralise agreement on non-interference with space assets, building on the provisions in the CFE and other treaties

–Negotiations on banning ASAT, weapons in and from space and international rules of the road regulations, either as a protocol to the OST or as separate legal instruments.

Recommended Priorities

In order to move forward on the detailed issues mentioned above, the working group identified potential organizations for each action, some of which already have work underway on space security-related issues, and some which Pugwash members could invite to get them involved in the space security movement. Below is a list of the suggested short-term priorities for Pugwash and International Student Young Pugwash to focus their continued efforts on the space security movement.

Pugwash priorities

1. Reach out to military community and space science community to encourage dialogue on space security including, where possible, participation in the development of the Space Security Index
2. Coordinate further research and work on space debris as part of raising awareness of the need for legally instituted rules of the road
3. Research into potential verification measures to increase the credibility of political and legal initiatives.

Student/Young Pugwash priorities

1. Push universal ratification of Outer Space Treaty
 - Create a Ratification kit
 - Work with the Space Generation Advisory Council and possibly the United Nations Office of Outer Space Affairs

2. European Union
 - Input to the development of EU White Paper on space policy
 - Increase knowledge among senior EU people
3. Cost-benefit analysis in collaboration with military actors

- Publish in high-level journal
 - Use that as a connection to meet more military contacts
4. Identify space scientists / and policymakers for Space Security Index expert base

Report on Working Group 3

International Cooperation and Human Security

Co-convenors: Gabi Baramki (Palestine) and Gerard Toulouse (France)

Rapporteur: H. Peter Langille (Canada)

A recurring theme throughout this workshop was the critical importance of the United Nations. It is widely viewed as the one international institution committed to encouraging global cooperation and the advancement of human security. As such, there was considerable support for strengthening the UN. Given the Organization's new responsibilities and assigned tasks, many noted the need for additional resources and funding. But, there was also support for encouraging member states to fulfill their obligations under the UN Charter. It is noteworthy that these commitments do not diminish over time or with non-compliance. They remain obligations of membership.

Human security proved to be a timely, goal-oriented, organizing principle; one that facilitated discussion of diverse, contemporary challenges. Our workshop reflected numerous priorities evident in the official human security agenda. We also discussed further cooperation to ensure freedom from fear of violence, the direct violence of war, the structural violence of exploitation and the cultural violence of discrimination.

We have witnessed formative events over the past two years. It appears we should have heeded an earlier promise of a 'new world order'. This one is clearly more divided, increasingly militarized and, arguably, more risky. Perspectives differ over whether these changes are permanent or temporal, but there is a general sense that we are now approaching a crossroads. Our current trajectory should not provide comfort. It appears that we have less political control, less capacity to brake and slow our speed, less capacity to determine a safe course. Aside from immediate risks, we are also beginning to understand the cumulative effect of human behavior, with evidence, albeit preliminary, inferring that we have only one or two generations in which to reinvent ourselves.

Working Group 3 focused on 'International Cooperation and Human Security', under the following headings:

- The role of international institutions in the prevention of armed conflict, protection of civilians and humanitarian assistance;

- Multilateral actions and unilateral initiatives, and;
- Post-conflict reconstruction, governance and assistance to democratization.

Specific Recommendations

The UN's capacity to monitor, to provide early warning and oversight, as well as to act in prevention is now beginning to benefit from an 'emerging global watch'. Already, we can discern the framework for coordination of a global monitoring system in individuals, NGOs, UN offices and missions worldwide. There remains a need for multiple, informal and secret sources of information, as well as rapidly deployable, fact-finding teams. Despite the controversial nature of 'intelligence' within the UN system, the Organization and the member states should address the prevailing gap in information gathering, intelligence and analysis. The alternative is to be unduly reliant on the current monopoly held by the most powerful. There is a risk that we will continue to be misled.

The report of the International Commission on Intervention and State Sovereignty, *The Responsibility to Protect*, has met with unanticipated resistance. Clearly, it will require ongoing efforts to attract support for a new norm and multilateral action, particularly when it entails the use of force to protect civilians threatened by genocide and mass ethnic cleansing. Unilateral campaigns cannot be convincingly rationalized under such pretenses. Yet legitimate questions are being raised about 'how' to protect and with 'what', establishing the need to identify and elaborate upon the alternatives. Sup-

portive member states should recognize that the essential criteria will be legitimacy, credibility and universality. Civil society will increasingly expect more than multilateral 'coalitions of the willing'. This may imply not only UN authorization, but also UN management. At present, this is a tall task, but not mission impossible.

The UN's capacity to prevent armed conflict, to protect civilians and to conduct effective peace operations also depends on the extent to which it can organize reliable and rapid responses to diverse emergencies. Regrettably, rather than rapid deployment, routine delays of 4-to-6 months became the norm in the late 1990s. Modest progress is evident with the recent expansion of the Department of Peacekeeping Operations, the development of 'on-call lists' for mission headquarters, the expansion of the UN Standby Arrangements System, particularly the multinational Standby High Readiness Brigade (SHIRBRIG). Combined, these now provide a more effective foundation for peacekeeping. As they remain reliant on prompt national decision-making and access to well-trained, well-equipped national personnel, there is little assurance of rapid deployment.

If the UN is to prevent armed conflict and to protect civilians, there will be a need for further, more ambitious efforts and new mechanisms. An additional SHIRBRIG would help, as would additional participants and a larger brigade pool. In this respect, it might help to encourage complementary national defence reforms, particularly the earmarking of battalions specifically for UN operations.

There is also an urgent need for a UN Emergency Service—a dedicated, multidimensional 'UN 911', that can address human needs, including protection, security, health and hope. This service should be composed of volunteer military, police and civilian volunteers that are recruited globally, selected for high standards of professionalism and commitment, and then directly employed by the UN. It is time for an in-depth, independent, transnational study to identify the general and specific requirements for starting and operating such a service.

Contrary to the notion that governments are constrained by fiscal austerity rendering new initiatives unfeasible, we heard that the 'international community' could afford more effective structures and reforms in many of the areas noted. Governmental priorities determine the allocation of funding. To cite one example, with wider cooperation, the proposed Tobin tax of 0.1% on international financial transactions would have yielded \$97 billion in 1997. Such a source of funding for the UN system would make it less dependent on governmental contributions.

With respect to questions of disarmament and arms control, it is not easy to commence or conclude on a promising note. However, it is noteworthy that the International Committee of the Red Cross recognizes significant reductions in use of land mines globally. The International Campaign to Ban Landmines attests to the complete elimination of the international trade in landmines, as well as far fewer victims of these weapons. This progress arises despite the fact that better de-mining technology has been frequently promised,

but seldom provided. To ensure this process concludes on a promising note, Pugwash and other supportive parties may need to encourage governments to renew their funding. Many believe those planting mines should, at least, be held responsible for their removal. The big task is in figuring out how to enforce compliance.

Small arms also figure prominently on the human security agenda, primarily because of their large impact, low cost and availability. It is easy to understand why they are 'the weapon of choice' in the majority of contemporary armed conflicts. We heard compelling testimony about the reciprocal feedback loop between insecurity, poverty, violence and acquisition of additional small arms. We also support the need for better incentives to turn in weapons, including individual, national and multinational buy-back programs.

Regrettably, we are experiencing re-armament today on an unprecedented scale in every region of the world. It is past time that the UN called the world to account to begin reversing this process. It is proposed, that we call for the UN General Assembly to prepare for, and conduct a Fourth Special Session on Disarmament.

Together, we devoted considerable time to discussing human security, the rapid militarization of much of the world and the consequences for human welfare. Could Pugwash or a group of individual members initiate a study on the interface of human security and military security to determine whether and to what extent the concepts are compatible or not, and whether both can exist

within a single foreign policy?

Our working group benefited from approximately forty-three participants from twenty-four countries. Within, there was widespread support for Pugwash's emphasis on analysis and advocacy. Yet we also recognize the need for critical reflection and adaptation of this organization. It was agreed that one challenge ahead is to mainstream gender and youth analysis, utilizing the wider perspective and strengths of each. As noted (and agreed), "men desperately need more creative ideas for overcoming a war system".

Another challenge is to encourage a much-needed culture of peace, which will necessitate further support for peace research and peace education. We know a few of the implications when there is neither tolerance nor assistance for independent analysis, constructive criticism and the development of policy options. This is now an evident trend; arguably one sustained by organized fear and a culture of violence. Clearly, the attendant risks merit further research, education and advocacy to counter this trend.

UNESCO was mentioned favorably for a program in peace education that might be renewed. This UN department shares Pugwash's longstanding commitment to education, science, culture and ethics, making it a natural partner. We also heard a compelling recommendation for the UN to prepare an annual report on state of world peace and security.

To effect promising change, a number of participants suggested the need for constituency-building with like-minded groups, preferably on an issue-specific basis.

There was also support for 'out-reach' to attract additional scientific expertise, prominent members, particularly from countries that are currently under-represented and acknowledged leaders in science, such as Nobel laureates in the natural sciences.

It was proposed that Pugwash participate in both the world economic and social forums. Many expressed hope that others would not only enjoy, but also learn considerably from a repeat performance of what has already been labeled, 'the brilliant Joe show'.

Over the past decade, we gradually recognized the need for integrated approaches across the full spectrum of peace operations. Slowly, we drew some connections and learned that seemingly different aspects of the human security agenda were actually interrelated. Although political and corporate leaders will occasionally dismiss any connection, elementary students know that human security is related to environmental security. Given the disappearance of the tropical rainforest, is it for us, or for others to ask the government of Brazil what they might need to stop the cutting?

Hopefully, we also learned the UN cannot be expected to carry additional responsibilities without additional support and resources. An effort could be made to engage regional organizations under the UN umbrella (e.g. OAS, AU and OSCE), encouraging them to take on a more active role in support of the UN Security Council. Success, and quite possibly survival, will depend upon the extent to which civil society develops a constituency of support for the UN

through cooperative partnerships with supportive member states, NGOs, institutes and individuals. There will be a need for reliable information, wider efforts to educate at the political level and smart media campaigns.

Good governance should not be taken for granted, here or elsewhere. When under intense pressure from

abroad, even respected democracies may behave like vicious gang members. One task that merits further thought and a final question is how we can counterbalance and offset some of that pressure. Well-conceived, common approaches would appear to offer better prospects than unilateral reactions.

2. "Terrorism is the deliberate targeting of civilians with a view to kill and to intimidate".

What is interesting about the latter definition is that it makes no distinction between terrorist acts committed by states from those committed by non-state actors.

The need for a precise definition of terrorism does not only stem from the fact that there are more than 200 definitions of terrorism but that various governments have opportunistically sought to label legitimate political opponents in an effort to narrow the political space.

The need for greater precision in our terminology also extends to the term "weapons of mass destruction" or WMD. This stems from the fact that the term places in the same category—chemical, biological, radiological and nuclear weapons. This is inappropriate and misleading bearing in mind that nuclear weapons are many orders of magnitude more powerful, and hence more damaging than the other three and its characteristics and case of manufacture are completely different. As the choice of words we use shape responses, it is imperative that we are as precise as possible with the words we so loosely use.

On the Origins of Terrorism

Terrorism stems at individual and group levels. At the individual level, the Oklahoma bombing committed by Timothy McVeigh springs to mind. Given the random nature of such acts they are far more difficult to control. At the level of groups; one has leaders of racial, ethnic, religious or national groups mobilizing followers to commit terrorist acts on the

Report on Working Group 4 Terrorism

Co-Convenors: Francesco Calogero (Italy)
and Pervez Hoodbhoy (Pakistan)

Rapporteur: Hussein Solomon (South Africa)

Abstract

Terrorism is not a new phenomenon, but what is new today is its scope and magnitude. Whilst acknowledging that terrorism does not exist in a vacuum; the simplistic notion that poverty leads to terrorism must be rejected. At best poverty is a facilitating condition not a necessary one. There can be no justification for the taking of innocent life! Today's terrorists do not only have traditional small arms and explosives in their arsenals but the potential to access nuclear, chemical and biological weapons. In responding to terrorism, the centrality of the United Nations must be stressed as must the legal as opposed to military approaches. This would entail the strengthening of international legal instruments such as the International Criminal Court as well as the Chemical and Biological Weapons Conventions. In responding to terrorism a fine line should be maintained between the need for security and the encroach-

ment of civil liberties. Responding to terrorism should not only be the preserve of governments and inter-governmental bodies. Indeed members of civil society have a social responsibility to join in this global scourge.

Introduction

Terrorism is not a new phenomenon but what is new today is the scope and magnitude of this global scourge. This report is divided into four sections. In the first section we look at definitions. In the second, the origins of terrorism are explored. Third, the scope and magnitude of terrorism is analyzed and finally we turn to responses to terrorism.

On Definitions

Two of the most interesting definitions to emerge on terrorism are the following:

1. "Terrorists are people who think their ideas are more important than other peoples' lives"; and

basis of a commonly perceived grievance or wrong.

Whilst acknowledging that terrorism does not exist in a vacuum, the simplistic notion that poverty leads to terrorism must be rejected. Under no circumstances can a Mohamed Atta, the leader of the 9/11 hijackers or Osama bin Laden, leader of the Al-Qaeda network be regarded as poor. At best, poverty can be a facilitating condition, not a necessary one. In similar vein, the pro-Israeli policies pursued by the US as well as its support to autocratic Arab regimes was similarly jettisoned. In the final instance, there can be no justification for the taking of innocent life!

But, the origins of this current wave of terrorism are also intimately related to opportunity. Indeed, Al-Qaeda owes its emergence to the decision by the US government to organize a Great Jihad against Soviet forces in Afghanistan in 1979. The CIA actively recruited radical Muslims from Algeria, Sudan, Saudi Arabia, Egypt and further afield to fight the holy cause as mujahedeen. Saudi Arabian money and support from Pakistani intelligence services also came to support US objectives in Afghanistan. Washington actively supported the development of a militant Islam and provided advanced military training to such mujahedeen as Osama bin Laden. By 1988, the USSR withdrew but the terror camps remained until 2001. By that time, 70,000 terror graduates from fifty countries emerged from its camps and formed the basis of today's Al-Qaeda network.

This is clearly a lesson of where long-term stability and security is sacrificed by short-term strategic con-

siderations. Neither were Washington's policy-makers alone in this folly. The Indonesian government also encouraged Islamic radicalism as a bulwark against communism and in Algeria militant Islam was mobilized in the national independence struggle against the French. Having given birth to Frankenstein monsters, both countries now find they cannot control these forces as the 100,000 dead Algerians will testify to in the vicious battle between Algiers and Islamic militants.

Opportunity, however, does not only arise from the changing geo-strategic nature of world politics but also from new weapons and communication technology. The fact that terrorists have in their possession iridium satellite phones eases communication as does the growing interconnectedness of the world economy where millions of dollars can be transferred by the press of a button.

The growing relationship between terrorist networks and organized crime syndicates is also cause for concern.

The Scope and Magnitude of Terrorism Today

Terrorism today takes the form of global networks functioning at local, national, regional and international levels. Responses therefore have to occur at all these levels if one wants to effectively deal with this scourge.

It is quite interesting that the continent which is most plagued by terrorism—Latin America—does not feature on the 'war on terrorism'. Pugwash must seek to give the terrorism plaguing Latin America greater visibility in the media and

amongst policy-makers.

Terrorists are opportunistic and seek to achieve their objectives by any and all means available. In this respect, the five million illegal firearms circulating among the MERCOSUR states of South America is a cause for concern as is the highly enriched uranium stockpiles in the former Soviet Union, which is enough to produce 20,000 nuclear devices. If such HEU falls into the hands of terrorists via say organized crime syndicates, it would be relatively easy to gather the rest of the components and build a crude non-transportable nuclear device in the city to be destroyed. Possibilities also exist of chemical weapon technology passing into the hands of terrorists since most reasonably developed states possess crude chemical weapon technology. The sarin gas attack in a Tokyo subway by the apocalyptic sect, Aum Shinrikyo, is a case in point.

One should also not underestimate the power of biological weapons. Ten milligrams (or one fiftieth the weight of a paper clip) of botulinum toxin could in principle kill 25,000 people.

The possibility that terrorist could target a nuclear power plant for attack is also not beyond the bounds of possibility. As such the probabilities for terrorist attacks to occur should form an integral part of studies that investigate the potential future of nuclear energy production. In particular, its vulnerability to terrorist attack should be part of programs intended to design innovative reactor types, in which passive safety features play an important role, and options such as the construction of

nuclear power plants underground should perhaps be revisited. The construction of rod-or cage-like structures around nuclear facilities to protect against in-flying airplanes as well as the installation of short-range air-defence systems should also be considered.

Responding to Terrorism

Earlier mention was made of how words contribute to mind-sets that shape policies. This point needs repetition in our attempt to understand responses to terrorism. Why a 'war' on terror? This suggests the primacy of the military approach to dealing with terrorists. This military-led approach has also seen military invasions of Afghanistan and Iraq where the chief protagonists, Mullah Omar and Osama bin Laden in Afghanistan and Saddam Hussein and sons in Iraq, have disappeared. This military-led approach has also seen large numbers of Taliban and Baathists leaving their positions in the face of the US military juggernaut and fading into the local population. This military approach has also seen organized attacks by these elements against government authorities and US soldiers in these countries. In Afghanistan, Hamid Karzai is referred to as the "Mayor of Kabul" on the basis that his writ does not extend beyond the capital. Others believe even this is charitable given the assassination of members of his own cabinet and attempts on his life within the city limits of Afghanistan! Moreover, the resumption of heroin production in Afghanistan and their export to Western Europe and the US should also be viewed as a source of concern. In Iraq, the killing on aver-

age of one American soldier a day since the fall of the tyrannical regime of Saddam Hussein also shows up the limitations of a military-led campaign on terrorism. Indeed, the invasion and occupation of foreign territory in dealing with the threat posed by a global terror network is itself a questionable military strategy. As the most recent attacks in Riyadh and Casablanca demonstrate Al-Qaeda retains its military capabilities and global reach.

Is there an alternative? We believe that there is. Stressing a 'crimes against humanity' approach is a possible alternative. This would stress strengthening influential legal instruments like the International Criminal Court as well as the structures of the UN system. Such an approach would not mean the abandonment of the military approach but rather that the military exists to enforce legal decisions.

But should we stress this legal approach then we need to take stock of certain shortcomings in the legal anti-terror regime. For instance, both the Chemical Weapons Convention and Biological Weapons Convention is designed to counter atrocities committed by states and does not really make provision for terrorism committed by non-state actors. This would need to be rectified. Given the multidimensional nature of the terrorist threat posed, strengthening the legal anti-terror regime means not only strengthening it at international level but also at regional level such as the Organization of American States (OAS), the Association of South-East Asian Nations (ASEAN), the European Union (EU) and the African Union (AU).

Responses would also need to reduce the opportunities available to terrorists. In the light of this, the amount of fissile materials from weapons and other sources that are held in poorly guarded sites all over the former Soviet Union and the related possibility of theft remains a grave threat to world security. Under these circumstances, should we consider a revitalized Nunn-Lugar initiative to buy these materials?

Responding to terrorism however is not only the preserve of governments and inter-governmental bodies; civil society also has a duty to play a key role. Here the important work of organizations like the Bioweapons Prevention Project which aims to strengthen the norms against using disease as a weapon needs to be supported.

Over the past three decades we have been experiencing a revolution in biotechnology that are having great impacts on domains as diverse as medicine and food security. However, the techniques used to improve health or to protect people from the worst consequences of biological warfare can also be applied to create a new generation of biological weapons. Because of the dual-use aspect of biotechnologies, the prohibition of any type of biological research is not feasible. Instead, the close monitoring of developments in technology can serve as an early warning of activities that could prove dangerous. Also it is imperative to educate students on relevant weapon control regimes in carrying out research.

The desire to prevent sensitive information from getting into the wrong hands is understandable and

wise. However there are some who wish to take this further with measures, which may encroach on civil liberties. In January 2003 in the US, for instance, a group of journal editors and authors discussed strategies to enhance security. One of these strategies read as follows: “*We recognize that on occasions an editor may conclude that the potential harm of publication outweighs the potential societal benefits. Under such circumstances, the paper should be modified, or not published*”. Meanwhile, the editorial comment of **Physics and Society** of January 2003 states, “... *since good science, often underlines national advantages conducive to security, it is occasionally vital to live with effective secrecy in order to enhance security*”.

In this charged atmosphere there is also talk of boycott of scientific colleagues and research laboratories being closed to foreign students. Under these circumstances, we must ask who determines which publication may be published or not or which parts to excise before publication? Who determines which scientific colleagues do we interact with and what is the criteria on which these judgments are to be made? This is something that needs the direct intervention of the scientific community such as that contained in Pugwash.

Report on Working Group 5 *New Technology for Human Development and Security*

Co-convenors: Marie Muller (South Africa) and Suzuki Tatsujiro (Japan)

Rapporteur: Tom Børsen Hansen (Denmark)

Summary of discussions

Forgotten or suppressed issues. The topic of the discussions in working group 5 was *New Technologies for Human Development and Security*. In the first session it was suggested that the topic of the working group be changed to *Risks and Threats of New Technologies: Identifying Crucial Forgotten and Suppressed Issues*. The argument behind this suggestion was that the working group title left out a crucial issue: that technologies can be a source of new problems.

Downside impact of nanotechnology. The commissioned paper on nanotechnology recommended that Pugwash consider endorsing the call of other groups and organisations for a moratorium on certain types of research into molecular and atomic engineering, specifically research into self-replicating and self-assembling “nanomachines,” to allow for adequate reflection and debate. The call for such a moratorium was motivated by a range of concerns about the possible social, health and environmental impacts of such technology, most importantly, in terms of Pugwash tradition, the potential emergence of a new category of weapons of mass destruction.

The paper gave rise to a vigorous discussion. Some participants contested the description of the present

and potential nature of these technologies. The adequateness of the proposed moratorium was questioned.

The grassroots scientist. Three presented papers discussed the links between science, technology and grassroots issues. A clear distinction between science and technology was emphasised. Science differs from technology with regard to the norms guiding its practitioners. Also the driving forces behind science and technology are different. Science is curiosity driven. Special—commercial or military—interests are usually the impulse to technological production. It was believed that grassroots problems currently seem forgotten by mainstream science and technology. The idea of the grassroots scientist emerged. This concept refers to a person who uses the scientific approach to grassroots issues. It was mentioned that scientists should be better trained in analysing complex systems and thinking in new ways.

GMOs and food security. A paper presented on the effects of genetically modified organisms (GMOs) on food security of developing countries stated that more attention should be paid to international attempts to regulate and mitigate the risks of GMO-technologies following the example of the Cartagena protocol on

biosafety and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA). It was argued that the role of profit oriented research and development on techno-scientific 'progress' and its ability to address human security issues be addressed.

AIDS as a security issue. A presented paper advanced the argument that the already known characteristics of the present (southern African) and impending waves of HIV/AIDS pandemic indicated novel and grave threats to global security. Noting the unsatisfactory record to date, it explained how this situation had come about and suggested that there was a precise and urgent task of definition and analysis that was prerequisite to more successful policy to combat the pandemic. Security consequences for the "next waves" of HIV/AIDS countries were outlined, and concrete scenarios regarding Nigeria, Ethiopia, Russia, India and China given. Most immediately, Nigeria and Ethiopia will be the hardest hit with the social and economic impact, as they have the highest 2010 estimates of adult prevalence rates: 18–26 % for Nigeria and 19–27 % for Ethiopia. Both countries are key to regional stability, have important geo-strategic implications (west African oil, for example) and the rise of HIV/AIDS will strain their governments, as that of Zimbabwe already is being strained.

Health and sustainable development. A paper dealing with the complexity of nutrition in health, disease and sustainable development was put forward. It dealt largely with two of the

top-10 world health risks, malnutrition and obesity, and aimed at providing some insight into and understanding of these pathologies. The paper concluded that health is not an isolated problem, but one of environmental, societal and global concern; humans need healthy environments in which to live in order to be healthy themselves. Robbing communities and nations of their greatest wealth — the health of their people—drains the human and institutional capacities that fuel sustainable development.

Myths of ICTs. Two papers on information and communication technologies (ICTs) were presented and discussed. Myths related to ICTs were pointed out, e.g. that the use of mobile phones per se offer the poor in developing countries crucial information that will help them or that information transmitted through the internet (e-newspapers etc.) helps us make more rational choices.

Concerns were raised about the 'scientific positivism' currently surrounding ICTs inside and outside scientific communities. It was generally agreed that ICT *does* have impacts, of course, but that their depth as well as their nature was still not well analysed, and gave no grounds for complacent assumptions such as the presented paper challenged. In discussion, some argued that the manner in which the two-edged sword of ICT might cut depended less upon the technology, more upon the context in which these technologies are used. It was suggested that this is a common feature of all technologies.

Of positive effect of ICT, it was put forward that ICTs might potentially facilitate the rise and / or

growth of social movements and hence promotion of their aims (e.g. public awareness of the nuclear threat). The life-saving roles of modern telecommunications, for example in surgery, were described. On the downside of ICTs the group was alerted by the potential risks that accidental disclosure or surveillance pose to human security and privacy, in particular as a consequence of the war against terrorism. This was in turn countered by noting the reassurance which comes from a capacity to track individuals in circumstances of criminality.

Recommendations to Pugwash

An important theme underlying the paper-discussions was recommendations for future Pugwash activities related to new technologies. Many potential areas of concern for Pugwash emanate from the application of new technologies. Even though many of these issues have implications for human development and security, Pugwash cannot take on all of them. The group considered criteria that could be used to select the issues for Pugwash to take up. It concluded that Pugwash must be able to add value to or 'tip the balance' on such issues. Meeting the security criterion is axiomatic in selecting issues for action by Pugwash. Some specific guidelines were identified:

- If science or technology creates a circumstance that poses potential threats to global / human security then we, as scientists, have a responsibility to do something about it.
- If a complex problem is emerging, or a simple problem has to be looked at in a complex context, and

engagement with it is not possible without thinking in a new way.

- If new technologies are required to deal with a problem.
- If issues are systematically forgotten or suppressed.

The issue of what constitutes the target group of Pugwash endeavours was raised. There was general agreement on the principle: “horses for courses;” a principle historically well rehearsed. Pugwash’s audience is, for some causes, decision-makers; for other causes the general public is the target group.

Based on a careful consideration of the various issues raised in the papers presented, followed by the application of the guidelines mentioned above, the group made three recommendations:

- A Pugwash focussed study group entitled “Threats without enemies: security implications of 21st century health problems” should be established. Pugwash will set up an expert forum where the visibility and potential impacts of the HIV/AIDS pandemic upon global security will be analysed by experts from different disciplines, who will then formulate policy support advice for decision-makers. The model in mind is that of the successful series of focussed meetings on intervention and sovereignty.

This recommendation fulfils criteria b), c) and d). Health issues are very complex, and connected to environmental, societal and global concerns. The fact that no one else is doing something similar supports setting up the proposed Pugwash focussed study group.

- A working group at the next year’s Pugwash conference in South Korea on the topic “Early warning and preventive action on emerging technologies” should be established. Topics within such a working group could be: the character of the early warning institutions, and the scientific analysis of examples of potential threats from emerging technologies—downside consequences of nanotechnology, biomedical technology etc., and security and privacy issues related to ICTs (Echelon etc.). The analysis should include contextual aspects (commercial, religious, and ideological etc.) surrounding emerging

technologies, *as well as* account for the epistemological and historical meta-assumptions on which they are built.

There was agreement in the group that this recommendation fulfils criteria a), b), and d).

- Put on the Pugwash agenda a consideration of “a new relation between science and grassroots.”

This recommendation fulfils criteria b), c), and d). Understanding of and solutions to grassroots problems were considered forgotten issues within mainstream science and technology. Discussions of this topic need to be initiated.

Report on Working Group 6 *Mitigation of Global Environmental Change*

Co-Conveners: Omar Masera (Canada) and Kit Hill (UK)

Rapporteur: David Sandomierski (Canada)

The theme of this conference is “Advancing Human Security: The Role of Technology and Politics.” The second part of this title recognizes that we need integrated approaches to ensure our survival. Scientific and social inventiveness together will help us address our complex problems. Similarly, “Human Security” is a fertile concept. We must choose to define “security” broadly. Our security—our safety—is inextricably tied up in the health of the Earth. It is time to expand our intellectual horizons to include the urgent and real threat of environmental degradation.

Under continuation of recent trends, we can expect, by 2100, a tripling of pre-industrial levels of atmospheric carbon dioxide, with a

quadrupling almost unavoidable thereafter. That world would be a “scorched earth:” unbearably high surface air temperatures, severe drought conditions, dramatic change in ocean levels, and irretrievable loss of biodiversity.

Global Climate Change is primarily a human-induced phenomenon. In the past fifty years, climate models which combine natural processes with human intervention correlate extremely well with temperature records.

Levels of consumption, the carbon intensity of energy sources and processes such as deforestation and land degradation all determine atmospheric CO₂ levels. Reforestation can reduce CO₂ and has local benefits but cannot be relied upon

alone to abate global climate change.

Stabilization of global population will help. For example, in countries where universal free education has been extended, especially to women, fertility rates are lower. One possible solution is to reduce population growth rates through education.

However, it is the high energy consumption on behalf of the developed world which is most urgent. Carbon-based fuels contain hidden subsidies that artificially lower their cost, placing a barrier to renewable energy sources. Wind and solar energy are too intermittent to provide adequate base loads of electricity. For many countries, the main alternative to coal, whose carbon emissions are extremely high, remains nuclear power. In that sense, countries may need to consider keeping the nuclear option open providing issues such as nuclear proliferation, vulnerability to terrorist attacks and the safe disposal of nuclear waste are solved. The widespread move to renewable energy sources, while desirable, requires a thorough economical and technological assessment.

Despite these difficulties, it is urgently important that mitigation strategies are not sacrificed in favour of adaptation strategies. Whereas the cost of mitigation will be borne largely by rich countries, poor countries bear the brunt of adaptation measures. Further, climate change information risks becoming commoditized and sold to the highest bidder, giving preferential access to those least in need. Early knowledge about climatic events, for example, can enable rich farmers to exhaust the supply of drought-resistant seeds. Focus upon adaptation, which is

dependent upon access to scientific data, can drive a wedge deeper between rich and poor.

Many areas of the world are already facing dwindling water resources. Given the high prevalence of transboundary water systems, nations must cooperate through water sharing and joint management in order to avert water-based conflicts. Concurrently, nations must balance their needs for capital investment with an affirmation that water is a universal human right. Governments must distinguish between different uses of water so that water for basic survival purposes is not commoditized.

On the one hand, large scale projects such as dams and industrial irrigation can provide sophisticated technological solutions to water problems. On the other hand, water management at the individual level—such as collecting rainwater and using backyard filtration systems—can vastly increase water yields. The imposition of inappropriate water technologies can undermine social cohesion. Managers of local water resources should weigh the high legitimacy of small-scale, individual efforts against the technological advantage of large-scale projects.

Traditional knowledge has much to offer science. For example, oral accounts by the indigenous inhabitants of Canada's Arctic region can provide researchers with information about climate change for which there is no numerical data. An appreciation of complexity and ambiguity challenges the administrative mind which tends to artificially compartmentalize problems into narrow parts. Technological fixes are no panacea but must

rather be seen as part of a bigger picture.

A "sustainability" paradigm should inform responses to the global environmental threat. A shift towards this paradigm must be achieved through the "ultimate" drivers of society: our values and needs, our knowledge and understanding, our power structures and our culture. The participation of a number of different actors, termed "Governance," can accomplish this goal better than the more limited conception of government. Support for governance initiatives can be bolstered by research into, and education about, the ultimate drivers of society.

Is sustainability an appropriate conception for Pugwash to adopt? We are familiar with the Russell-Einstein manifesto of 1955. As one participant in our group suggests, however, it may be appropriate to reformulate the manifesto to address the pressing needs of today:

We are speaking as an integral part of planet Earth, whose continued provision of a hospitable environment for humanity is in doubt... remember sustainable use and forget the rest... If you cannot, there lies before you the risk of universal death.

The words of TS Eliot give us sober pause to reflect upon the changing nature of our world: "This is the way the world ends/ Not with a bang but with a whimper." Human security today is threatened by nuclear proliferation. But we have more to fear than the big bang. The whimpers contained in the warnings of environmental exhaustion threaten our security just as much. Pugwash

can, and should, assist in bolstering support for sustainable development world wide.

This can be achieved without undermining Pugwash's esteemed position in the intellectual and political communities. Pugwash can lend support to organizations at the local, national and international levels by commissioning scientific studies whose findings would be accessible to specialists and generalists alike. This working group urges individuals in Pugwash to contribute to the following initiatives:

1. Develop a workable international strategy to implement the thorough findings of IPCC. The Intergovernmental Panel on Climate Change has extensive evidence and recommendations about global climate change. Due to their close relationship with national governments, however, they have not been given the mandate to devise a concrete strategy. Pugwash members have the expertise to translate their findings into action, and the independence to advocate this new strategy to national governments.

2. Prepare readable and accessible studies on specific environmental threats in local areas. Grassroots organizations can use this data to support their advocacy activities.

3. Study how businesses can operate within a sustainability paradigm. If business have access to solid suggestions on how to decrease their ecological impact in ways that can increase their economic efficiency, they will be likely to implement them. Given the increasing role of multinational corporations, this recommendation is particularly relevant. Pugwash can advocate the "quadruple

bottom line" that urges business to consider not only economic but also social, environmental and security factors.

4. Related to this, Pugwashites can contribute to the ongoing research and reflection on alternative economic development, whereby indices such as GDP are replaced by more holistic measures.

5. Examine the negotiation processes of international agreements. This is necessary not only to increase accessibility to these processes but also to indicate in which ways diverse perspectives can be incorporated.

6. Finally, Pugwashites can advocate for a "Blue Revolution" that calls for water conservation, wise management and equitable distribution of our most necessary resource.

The horrific images of Hiroshima and Nagasaki capture our imagina-

tion. The mind throbs when it tries to understand how quickly so many lives can just vanish. The repulsion that such cruelty comes at the hands of humans, and the faith that we are wise and compassionate enough to avert it, if only we could get our priorities straight, has inspired Pugwashites for decades. But a torched earth and a scorched earth have the same moribund result. If we are to remember our humanity, we must remember our capacity for change. In the face of the very real threat of global warming and resource exhaustion, Pugwashites can use their expertise to help society to deal with the complex and interconnected nature of our troubles. We are free to imagine the world we want, and in this world, human security depends on environmental sustainability. It is time to define our goals and responsibilities more broadly.

Sharing the Planet
POPULATION – CONSUMPTION
– SPECIES Science and Ethics
for a Sustainable and Equitable
World Bob van der Zwaan and
Arthur Petersen (eds) Bas de
Gaay Fortman, Vandana Shiva,
Johan van Klinken, Jan Pronk
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Friedrich Schmidt-Bleek,
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NETHERLANDS PUGWASH

Sharing the Planet: Population—Consumption—Species *Science and Ethics for a Sustainable and Equitable World*

Edited by Bob van der Zwaan and Arthur Petersen

The internationally renowned scholars contributing to this volume aim to fill an often-existing gap: they assess various specific biodiversity-related features in detail, while attempting not to lose track of the sustainability problem at large. Moreover, their purpose is to formulate realistic strategies that can contribute to bringing about changes in the international policy arena necessary for reaching a sustainable and equitable world. The book is intended for scientists, policy-makers, and interested and concerned world citizens alike.

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

REPORTS OF THE WORKING GROUP MEETINGS OF INTERNATIONAL STUDENT/YOUNG PUGWASH (ISYP)

Introduction

The present document reports the discussion of over 30 students and young professionals from 17 countries who participated in the ISYP working groups preceding the 53rd Pugwash Conference entitled 'Advancing Human Security: the Role of Technology and Politics'. Each participant presented a paper along one of the following topics suggested by the senior Pugwash Conference organizers:

1. Nuclear Weapons
2. Weaponization of Space and Missile Defense
3. International Cooperation and Human Security
4. Terrorism
5. New Technology for Human Development and Security
6. Mitigation of Global Environmental Change: Beyond Johannesburg.

Two ISYP Working Groups were formed: 'A' (comprising themes 1, 2 and 4) and 'B' (comprising themes 3, 5, and 6). The first two sections offer the rapporteurs' report of working groups 'A' and 'B' respectively. Section 'C' offers an outline of the presentation made by ISYP to the Pugwash Council on July 17, 2003, including recent changes in working

dynamics, our evolving sense of purpose, ongoing and new projects, recommendations for the Pugwash movement from the ISYP perspective, and a few questions to guide future dialogue between and within our organizations.

As students and young professionals we are grateful for the opportunity to share our thoughts with the Pugwash Conferences on Science and World Affairs. It is our hope that this report can contribute to enriching the ideas and actions of the Pugwash Community.

Furthermore, we would like to thank the note-takers for the contribution, in particular Moira Ann Goodfellow and Pablo Suarez.

Irna van der Molen
Joelien Pretorius

Report on ISYP Working Groups A (1, 2 and 4)

Facilitator: Hugo Estrella
Rapporteur: Joelien Pretorius

Group A included three sub-groups, namely a sub-group on nuclear weapons (1), weaponization of space and missile defense (2) and on terrorism (4). Because of the overlap of the themes and practical considerations, these were all discussed in one working group.

Nuclear weapons

The working group considered three themes with respect to this topic:

The Non-Proliferation Treaty (NPT)

We currently face a crisis in the non-proliferation regime: both horizontally (India's and Pakistan's nuclear weapons tests, Israel's covert nuclear weapons programme, North Korea's withdrawal from the NPT, Iran's uranium enrichment programme) and vertically (the US plans to develop low yield nuclear weapons that can be used in conventional warfare—mini-nukes). This highlights certain flaws in the NPT, namely:

- Nuclear weapons states have preached to non-nuclear weapons states, but have not kept their end of the bargain, which is ultimately to give up their nuclear weapons. This may be perceived as unjust for non-nuclear weapons states and if threatened these states may decide to withdraw from the NPT as North Korea did;
- An incoherent and insufficient response to the withdrawal of North Korea as well as to countries outside of the NPT (Israel, India, Pakistan). The lift of sanctions on India and Pakistan and the military aid that these countries receive may send a message that acquisition of

nuclear weapons has little diplomatic cost;

- Non-nuclear weapons states could acquire a nuclear fuel-cycle under NPT for peaceful purposes, but then decide to withdraw and to pursue a weapons programme;
- Proliferation to non-state actors (e.g. terrorists) is not included in the NPT framework.

At the 2000 Review Conference the NPT was extended indefinitely. Although, at the time, this was considered to be positive, it may be that these flaws are so ingrained in the structure of the Treaty that it would have been better to negotiate a new treaty altogether. In the absence of this possibility, several suggestions came up to strengthen the NPT such as the support of a fissile material cut-off treaty and additional protocols or even a treaty like the proposed Nuclear Weapons Convention (providing for a total ban on nuclear weapons and infrastructure supporting them) to transcend the NPT.

Regional hot spots: South Asia

The perceptions in India and Pakistan regarding nuclear weapons can be categorized as:

- Nuclear optimism: also referred to as nuclear hawks, people who hold this view actively support the nuclear weapons programmes and are present in military and government think tanks;
- Nuclear pessimism: also referred to as nuclear doves or abolitionists, people with this view are against nuclear weapons and are present in academia and some NGOs; and
- Nuclear pragmatism: people who have this view take the realist posi-

tion that the nuclear genie is out of the bottle, and it is best to manage the problem through robust command and control systems and confidence building measures between India and Pakistan.

The question was raised whether Pugwash can entertain the pragmatic position. It seems that some hawks turn into pragmatists when they retire from government establishments and then it is often too late to affect a real change in governments' programmes.

Nuclear Weapons Awareness

In Britain, after the end of the Cold War, the number of people who regard nuclear weapons as an important issue decreased significantly. It is likely that there is a similar trend in other countries. The lack of awareness extends to:

- The horrific consequence of the use of nuclear weapons in terms of human and environmental destruction;
- The financial cost of nuclear weapons;
- Arguments that nuclear weapons may not increase the actual security of states;
- The legal obligations of nuclear weapons states to de-nuclearize.

Awareness-raising programmes should start by identifying the counter-arguments to the reasons that governments give for having nuclear weapons and these are:

- Threat perception and deterrence: the decision to acquire nuclear weapons are often rooted in historical animosity between countries or a strategic domino effect, where one country acquires nuclear weapons in response to another

country's weapons programme. It is, however, questionable whether nuclear weapons improve the security of one country vis-à-vis other countries, or could prevent conventional warfare through deterrence.

- Sign of national prestige: it is fair to say that some governments may see their nuclear weapons as essential to be major powers in the world and use this to gain public support. In the case of Pakistan's nuclear weapons, they may be portrayed as the 'Islamic bomb(s)'. This view is perpetuated by countries such as France and Britain hanging on to their nuclear weapons in the absence of a real threat to their security.
- A weapon of the poor. Conventionally weak states might acquire nuclear weapons as a cheaper option than spending a lot of money on conventional weapons to reach comparable levels of military might. However, India and Pakistan still spend money on conventional forces and their nuclear weapons have not been successful in diminishing the intensity of their conflict.

With regard to nuclear weapons awareness initiatives, the working group was briefed on two projects:

- An interactive on-line quiz designed by Oxford University Student Pugwash where questions are asked and information is given about the amount of nuclear weapons that exist, the cost of nuclear weapons and so forth, and where the issue is placed in the broader context (www.oxford.ac.uk; search for Student Pugwash).
- An exhibition of photographs from the Hiroshima Peace Memorial Museum by physicians for global

survival by a student group in Halifax, which shows the aftermath of the use of nuclear bombs.

Other suggestions were:

- Nuclear hawks in the political and military realm should be identified and the public should be made aware of their positions;
- Awareness programmes should also be initiated in non-nuclear weapons states to inform their citizens about the perils of nuclear weapons as a measure to prevent proliferation to their countries.

Missile defense and the weaponization of space

Missile defense

- The Bush Administration has set a date for deployment in 2004/5 for a ballistic missile defense system, which will not only consist of homeland defense against inter-continental missiles, but also include US 'friends and allies';
- This will have implications for the strategic stability in North-East Asia. Countries such as China and North Korea might increase the range and amount of missiles in their arsenals to maintain strategic deterrence. Thus missile defense could lead to horizontal proliferation in the region.
- An alternative to missile defense in the region may be initiatives to obtain regional missile stability, for example, placing regionally agreed limitations on missiles that would break the security dilemma in the region.

Weaponization of space

- The issue of space weapons links up with missile defense in that interceptors may be put in space and shot from and through space.

Although the 2004/5 deployment plan does not include space weapons, there are plans for developing a test bed in space;

- The US' withdrawal from the Antiballistic Missile Treaty (ABM) in order to pursue missile defense, left a legal loophole to test weapons that could be put in space (the Outer Space Treaty only prohibits weapons of mass destruction in outer space and all other weapons on celestial bodies).
- It should be noted that space is already militarised and that the US is increasingly reliant on space for military operations. It is thus often argued that weapons in space are strategically justified for three reasons: to protect military assets and superiority, to deny it to other countries, and to fight from space.
- On close inspection: if cost-benefit analyses are performed, it shows that military advantage is only short-term
- Any security advantage would be degraded once other states also deploy state weapons (In other words, the US might be worse off than they were before initial deployment).

Terrorism

- Terrorism is often sketched as a characteristic of the Post-Cold War context, but it should be recognized that it existed long before then. However, after the September 11 attacks, there is a fear that terrorists may acquire WMD and missiles to deliver them (an argument to support the development of missile defense).

- In the aftermath of September 11th, anti-terrorist legislation in Canada was rapidly adopted without sufficient consultation.
- The implications of this for civil liberties are now being realized and this has been cause for public debate.
- One of the lessons learned from the process is to explore the insertion of a 'sunset clause' in rushed legislation to ensure a review mechanism and, more in general, to promote civil society interest in parliamentary / congressional processes when important legislation is passed.
- The idea that the International Criminal Court should prosecute terrorists as opposed to national governments was also discussed. This might establish an international norm of condemning terrorism and promote international law at the same time.
- All of this should be seen in the context of human security. International economic injustice, international financial institutions and foreign policy behaviour of strong states in developing countries perpetuate poverty, inequality and a break-down of structures. These circumstances can be a breeding ground for terrorism as well as dictatorships.
- There is a need to make international institutions (e.g. the IMF) accountable for human security and pressurize governments to take responsibility for their foreign policy behaviour.

Recommendations for S/Y Pugwash

- From our deliberations, the following recommendations are made to S/Y Pugwash:

- New strategies should be explored regarding the NPT or new treaties that could come afterwards. Awareness-raising is a key priority as well as being informed about changes in military strategies such as the inclusion of 'small' nuclear weapons in the US military strategy.
- ISYP should be involved in the Conference on Disarmament and feed ideas into the discourse.
- ISYP should liaison with other NGOs, especially International Network of Engineers and Scientists for Human responsibility.
- At future ISYP meetings conflict-simulations could be organized as well as symposia on peaceful conflict resolution.
- ISYP could invite Israeli and Palestinian Student Pugwash members together to discuss scientific or technological issues, such as those related to water management. This should take place in a 'neutral' setting removed from the region (Europe?).
- Increase awareness about Pugwash among the general public
- Make ISYP's application to be one of the UN affiliated bodies one of the major priorities coming out of this conference
- ISYP already has a project on the weaponization of space, but it should also raise awareness within the scientific, business, and political community in the US and among allies of the US that might contribute to weaponization of space through cooperation on missile defense systems. Further attention should be paid to the impact of space weaponization on developing nations.

- ISYP should advocate further ratification of the Outer Space Treaty as a foundation for the efforts to keep space free from weapons.
- ISYP should advocate a 'No First Use' / Moratorium Pledge on deploying weapons in space to relevant nations, especially the US.
- ISYP should support the efforts for an international agreement banning space weapons modelled after the Ottawa-process
- ISYP members should write editorials in major media outlets on the space weapons issue based on sound scientific arguments to increase awareness.
- ISYP can also create a space weapons quiz for popular education.

Report on ISYP Working Group B

*Facilitator: Tom Børsen Hansen
Rapporteur: Irna van der Molen*

An initial overview of the papers presented in Working Group B led us to identify many common features that transcended the divisions proposed by the conference organizers.

Inspired by Senator Roche's encouragement at the ISYP symposium to come forward with our own unique approach, we decided to emphasize those issues which might be underexposed in discussions at the senior meeting, and to form the sub-groups along three cross-cutting issues that, in our opinion, provided a better platform to guide our discussions:

- Grassroots aspects of human security and new technologies (facilitator: Tom Børsen Hansen, note-taker: Moira Ann Goodfellow)
- International cooperation and human security (facilitator: Joanne

Macrae, note-taker: Irna van der Molen)

- Environmental Issues and development (facilitator: Magdalena Kropiwnicka, note-taker: Pablo Suarez).

ISYP sub-group on grass-roots aspects of human security and new technologies

In the sub-group discussions, seven papers were presented on topics related to grassroots aspects of human security and new technologies. The papers fell in two categories: 1) grassroots science and technology and 2) post-conflict reconstruction. Both categories covered conceptual discussion and practical / action-oriented recommendations.

The idea of grassroots science refers to the production of knowledge relevant to or linked with grassroots institutions and social movements. Grassroots science rests upon particular assumptions, norms and criteria which are partly different from conventional science and technological (industrial and military) research. Grassroots scientific activity ought to be guided by inter-disciplinarity, a social responsible approach and new ways of thinking.

Grassroots institutions can benefit from the use of technology. It was argued that the internet can contribute to the growth of social movements. Limiting factors, such as access to the internet in developing countries, were addressed. The overall conclusion was that the internet can be helpful in making social movements grow.

An example of grassroots science was presented. In the Tamil Nadu, Chengulpet district, India, an attempt

will be made to obtain food security through the establishment of so-called agricultural information 'clinics'. Biotechnological and ecological knowledge, as well as practical skills, will be shared with local unemployed people, enabling them to initiate effective agricultural production.

Post-conflict resolution: there is typically an abundance of small arms in civilian hands in post-conflict environments. These pose a serious impediment to post-conflict reconstruction efforts and development. They form part of an intricate cycle of insecurity, violence, and poverty. Combating this problem requires promoting cultures of peace, community development initiatives, and voluntary weapons collection programs at the grassroots level.

Peace education should be actively pursued in peacekeeping within a civil-military cooperative framework. Peace education projects should be targeted at different target groups, e.g. for different age groups. All of these groups must be approached in a manner corresponding to the characteristics of their group. Peace education programs should address the concept of negative peace (absence of violence) and contribute to sustainable peace.

Peace education and peace culture are reflected in a nation's peace history. Cultures which have a history of peacefulness are better equipped and more likely to adopt a culture of peace, following a conflict or other type of violent episode, than other types of culture. Creating cultures of peace is closely linked to peace education. But how is this accomplished?

The Russell-Einstein Manifesto is a good document and should be used

to actively address current science and world affairs issues within a framework of economic democracy. This would ensure the inclusion of all decision-making processes related to new technologies.

ISYP sub-group on international cooperation and human security

We acknowledge that geographic and cultural differentiation is required when talking about a concept as complex as human security. There is a human security index but this index needs further contextualisation. State security and human security cannot be seen in isolation, but at the same time, it would be naïve to assume that all states consider human security as a main priority. A state can even be a threat to human security if particular groups are prevented from having access to relevant resources.

Additionally, one should distinguish between state security and state capacity for the provision of governance. Human security depends to a great extent on economic, political and social conditions in countries. We have to recognize that some local and regional conflicts cannot simply be solved by military intervention. It is not only useful but also necessary to invest in non-military activities to increase human security.

One of the issues not always included in the debate on human security is how conflicts are affected by the protection or strengthening of religious, ethnic and national identity. We need to understand the complexity of structural conditions, temporal factors and triggering events which can result in political conflict.

It seems that we have accepted a hierarchy of values in the human

security debate, in which some aspects, like individual liberty, are considered more important than other values, such as collective responsibilities. This hierarchy is often reflected in the foreign policy agenda of many countries. The question is: how useful is the definition of human security if it doesn't match people's perception? This is where dialogue comes in, as well as accountability and transparency, which are also elements of the so-called 'good governance' debate. Since this debate has its own political history and agenda, there should be a serious effort to open dialogue about different perceptions of human security, accountability and democracy, as these are often historically determined. Not acknowledging this ignores the reality and is likely to result in ineffective policies.

Some governments have a political and economic agenda which is de facto counter-productive to human security. In these cases, one should look for complementary strategies which are tailored to the conditions in each and every country and which allow for cooperation with civil society. At the same time, we should recognize that certain mechanisms within international organisations do not promote human security. Traditional principles such as the sovereignty of states can obstruct the implementation of human security programmes. International organisations require therefore feedback from the local level to make international cooperation more appropriate and more effective. Summarizing, the basis for ensuring human security lies in ensuring good governance which is in accordance with the reality of

human (in) security as this is perceived by people at local level.

ISYP sub-group on environment and development

This sub-group acknowledged that our understanding of problems, our way of defining problems and the way we try to measure success is often too narrow. Additionally, the way in which decision-making processes are structured can, and often does, result in the exclusion of those perspectives which try to address complexity and interconnectedness. Simultaneously, it can result in the marginalization of the interests of weaker actors, such as women, ethnic groups, minorities, aboriginal communities and other vulnerable groups in society.

Another concern is the strong reflection of neoclassical economics in policy-formulation. The participants agreed that the perspective of neoclassical economics is misleading, and that it has too much influence in policy formulation.

There was agreement on the need to address key issues in future research, including:

- Incorporation of the perspectives and concerns of marginalized groups of society in problem definition, scientific research and policy implementation;
- Exploration of creative ways to translate the complexity of social and natural systems in institutional frameworks;
- Investigation of the way in which economic forces are shaping science. Strengthen the funding of non-for-profit research that aims at understanding and solving the main problems that humanity faces.

In terms of concrete steps for the Pugwash movement, the following guidelines for future action were suggested:

- Address the integrated nature of development and environment in the next years' Pugwash working groups
- The 'Ethics and Science' initiative should try to have an impact on private scientific research and technological development;
- Organize an event (or a series of events) addressing the changing nature of scientific endeavours in the context of global economic change. We should pay attention to the influence of economic tendencies in policies on science and technology and try to counteract the growing impact of commercial interests on the long-range future of research agendas;
- Compile and highlight 'inspiring' research initiatives that connect science with social responsibility in order to attract young scientists to ethical aspects of science;
- While discussions and working groups are absolutely enriching, we believe that the Pugwash Conferences could allocate more energy to action-oriented initiatives;
- Allow for more creative formats for Pugwash working groups. This may facilitate the identification of concrete action items for participants.
- If senior Pugwash is interested in expanding participation from young professionals in their deliberations, ISYP would be delighted to sit down with the Seniors in order to explore mechanisms to achieve this.
- We as ISYP would like to learn from Senior Pugwash in what ways

they believe we can contribute to their initiatives and discussions.

Outline of ideas presented at ISYP & Pugwash Council Meeting

Introduction:

- Thank you!
- Changes in ISYP working dynamics:
 - *Renewed atmosphere of enthusiasm and cooperation*
 - *Development of concrete ideas moving forward*
 - *Acknowledged need to document plans, accomplishments and commitments*
- Changes in ISYP conference: paper submissions, symposium, new focus on brainstorming and project development

Our evolving sense of purpose:

- Spread the Pugwash way of thinking among students and young professionals, across diverse disciplines and regions
- Facilitate the recruitment of potential new Pugwash members
- Provide the Pugwash conferences with a solid, thought-out young perspective
- Identify emerging set of concerns in the realm of science and world affairs
- 'Warm-up' young participants to enrich their individual involvement in the Pugwash working groups
- develop activities and projects tailored to the interests of Pugwash-minded young people

Continuing projects and new initiatives

- Organization of Student/Young Pugwash (Pre-) Conferences
- Activities within National Groups
- ISYP symposium
- Educational Project
- Information and communication technology
- Publications / Outreach
- Nuclear Awareness
 - Korea 2004 ISYP Symposium
 - Sweden 2004 workshop
 - Nagasaki 2005 event
 - Activities within National Groups
- Support for Emerging and New National Groups
- UN Reform and Affiliation
- Space Weaponization

Summary of ISYP recommendations to the Pugwash Council

- *Recommendations to enhance further cooperation between ISYP and senior Pugwash*
 - Organize a meeting in which ISYP and senior Pugwash members together discuss the expansion of the Pugwash movement, mechanisms to address the generational gap within the movement, and looks towards the future;
 - Discussion between ISYP and senior Pugwash members on strategies to strengthen existing groups and to establish new S/Y Pugwash groups in countries such as Iran, Iraq, South and North Korea, Palestine and Israel
 - Create more opportunities in which senior Pugwash members have discussions with YP-members at national level.

• Other recommendations

- Hold subsequent Pugwash conferences in developing countries; organize more events in developing countries
- Support Ottawa-type process to lead to Ban on Space Weapons
- Pugwash/ISYP Collaboration on Nuclear Awareness
- Round Table in Washington D.C. to educate politicians on space weapons
- Organize events and initiatives to address the following issues:
 - Grassroots science and the role of marginalized groups in science;
 - Local perspectives of human security and the inclusion of local voices / perspectives in science, policy formulation and implementation;

- Mechanisms of international cooperation which negatively affect human security
- Economic forces which are shaping science

Brainstorming: exploring future collaboration between Pugwash and ISYP

- Questions? Comments?
- How can ISYP contribute to Pugwash efforts?
- How can Pugwash assist ISYP initiatives?
- How can the Pugwash-ISYP dialogue be strengthened?
- What are the main challenges about the long-term future of Pugwash? What should we be doing now to strategically address those challenges?



Pluto Press
August 2003 / 240pp

Written by Nobel-prizewinner and former nuclear physicist Joseph Rotblat, and peace advocate and scholar Robert Hinde, *War No More* provides unrivalled expert insight into the nature of modern warfare — including 'weapons of mass destruction'. If war is ever to be eliminated, the pair argue that the United Nations — as well as non-governmental organizations, religious groups, and grassroots movements — all have an important part to play!

PUGWASH RETURNS TO THINKERS' LODGE

20 July 2003

"This is where bridges were built..."

Opening Remarks

by J. Patrick Boyer, Q.C.

at Thinkers' Lodge Sunday July 20, 2003

In July of 1955, the Russell-Einstein Manifesto was proclaimed. In July of 1957, the first world meeting of scientists convened in Pugwash.

In July 2003, the 53rd World Conference and Pugwashites return 'home' to Canada, to Nova Scotia, to the Village of Pugwash...and to Cyrus Eaton's Thinkers' Lodge!

For pioneers of the Pugwash Movement, like Joseph Rotblat and Ruth Adams, this is truly a homecoming. Others of you have also been here before.

Yet for many, today is the very first direct connection with the place which gave its name to a great cause, a building which has been pictured like an icon around the globe, a locale that has become known to you as both a place and a concept.

This rather humble setting is where bridges were built, reaching across a perilous chasm of suspicion and confrontation, of military prowess and ideological contention. Thinkers' Lodge may be tiny, and the Village of Pugwash small, but in the 1950s the idea that brought 22 participants from 10 countries and both sides of the Iron Curtain to this place was giant: the need to "think in a new way".

The World Pugwash Movement was born here as the message in the Russell-Einstein Manifesto began to cry-

tallize. Thinkers' Lodge shows it is neither how big a person or a place is, nor how modest its scale or humble its origins. It is always the commitment and the thinking of the people involved that make the difference.

This place, and what transpired here and grew outward around the globe, is a central part of humanity's story. After more than half a century of peril, the people of the world have still been spared devastation by thermonuclear weapons. The Pugwash Movement was no bystander, but an active contributor, to that result.

We now have the unique experience of hearing again here the same voices of Joseph Rotblat and Ruth Adams as they recount, on this day when we come "back to Pugwash", a perspective which only they possess because they

were in this place at the creation of the Pugwash Movement.

Both Joseph Rotblat and Ruth Adams, participants in that inaugural Pugwash conference in July 1957, have lived lives of commitment to the highest ideals of the Manifesto. The Manifesto called upon scientists to assemble "in conference to appraise the perils that

have arisen as a result of the development of weapons of mass destruction". Such a conference to discuss a resolution of that crisis would involve renunciation of war as a social institution, learning to think in a new way, and finding "continual progress in happiness, knowledge, and wisdom."

As we now approach the highlight for this day of remembrance in a lifetime of commitment—the messages of Jo Rotblat and Ruth Adams—I also express on behalf



Patrick Boyer welcomes participants to Thinkers' Lodge.

of Thinkers' Lodge and our Pugwash Park Commission our gratitude for this opportunity to share this place and its legacy with all who come here. Visitors to Thinkers' Lodge discover what transpired here. They grasp how individuals of courage and people of vision confront the discouraging work we must still do in a world afflicted yet by a military-industrial-scientific juggernaut and by those imprisoned in its old ways of thinking.

When Cyrus Eaton and Joseph Rotblat, Ruth Adams, and the cluster of leading scientists first meet here at Thinkers' Lodge 46 years ago this month, their mission might easily have been abandoned in the face of such daunting odds, had they not been galvanized by the deepest commitment to building new bridges, thinking in new ways, fashioning a new reality from nothing but a dream.

My fellow Commission members and I express our profound hope that you will find that spark of higher inspiration that still lives in this place. One of our members, Dr. Giovanni Benciaglia, himself a nuclear physicist and a relative of Cyrus Eaton, was here for the second Pugwash conference in 1959 and has remained an active Pugwashite ever since.

Around that same time, Raymond Szabo, another of our Commission members, joined Cyrus Eaton as an executive assistant. Ray worked closely with Mr. Eaton until his death in 1979, and today in the United States he chairs the Cyrus Eaton Foundation, a benefactor of the Pugwash Movement, and is also vice-chairman of our Commission here in Canada.

A third member is Bryan Jamieson, a Nova Scotia banker and member of a notable local family that through three generations has been closely linked with the Eaton family. Mary Jamieson, of Pugwash, serves as our Secretary and Assistant Treasurer. Kathy Langille, the elected representative to Cumberland County Council from this municipality, is also Custodian of Thinkers' Lodge.

Margaret Eaton, a poet, schoolteacher and counselor in the neighbouring province of New Brunswick, is also a relative of Cyrus Eaton and a student of his life and serves as Archivist and Librarian of Thinkers' Lodge.

For my part, I first met Cyrus Eaton here at a family reunion in 1968, little thinking at the time that I myself would one day be chair of the very commission he created back in 1929, or that I would become a Pugwashite at the invitation of Jo Rotblat to participate in a Workshop on Education for Global Citizenship here in 1994.

The Pugwash Park Commission's mandate, under a

charter enacted in 1929 by the Nova Scotia legislature, was to improve conditions in Pugwash and beyond. Thanks to big thinking here in the Lodge, 'beyond' in time came to include the whole world.

It was not the whole world perhaps, but certainly those who cared for it, who first came here in 1957. From that day unto this, our cause has been propelled an inspiring leader, a winner of the 1995 Nobel Peace prize, the President Emeritus of the World Pugwash Movement, an honorary member of our Pugwash Park Commission, an original signatory to the landmark Manifesto of 1955 which still inspires our greatest deeds today... Sir Joseph Rotblat.

Reunion in Pugwash, 2003

Joseph Rotblat

It was almost exactly 46 years ago, in July 1957, when I came for the first time to this unique place on the Northumberland Straits, a visit that was to have an enormous influence on me, in the second half of my life.

We came here then because the world situation was entering a dangerous phase, with a looming nuclear holocaust; and extraordinary efforts were required to prevent a catastrophe. Now, two generations later, these perils are facing us again. There is again a need for scientists to take steps to avert the danger.

Is there a chance that we will succeed? In my opinion, and based on past history, the answer is yes, there is a chance. The main fact is that we are still here; that we managed to avoid a catastrophic nuclear war, even though we came perilously close to it on several occasions. Many factors have contributed to this outcome, but I am sure that the Movement of Scientists that was started here in 1957, played a role in it. We were told this by a reliable source, the Committee in Oslo that awarded us the Nobel Prize in 1995. So it is in a mood of anticipation rather than dejection that I want to recall some of the events relating to the First Conference, held here, in Pugwash, in July 1957.

Before talking about the Conference, I have to recall the background to that event, the political climate that prevailed in the world at that time. It is quite possible that without the invitation by Cyrus

Eaton to come to Nova Scotia, there would have been no international movement of scientists.

Actually, the story began two years earlier, with a Manifesto issued in London, in July, 1955. It was drafted by the British philosopher Bertrand Russell and was endorsed by Albert Einstein in one of the last acts of his life; he signed it just before he died in April 1955. It was subsequently signed by nine other scientists, nearly all Nobel Laureates, from all over the world, but it has become generally known as the Russell-Einstein Manifesto.

It is a powerful appeal to scientists, to governments, and the general public to take cognizance of the dangerous situation that has arisen from the development of thermonuclear weapons (the hydrogen-bomb), and to make an effort to prevent a catastrophe.

Let me quote two paragraphs from the Manifesto:

"We are speaking on this occasion, not as members of this or that nation, continent, or creed, but as human beings, members of the species Man, whose continued existence is in doubt."

"Here, then, is the problem which we present to you, stark and dreadful, and inescapable: Shall we put an end to the human race; or shall mankind renounce war?"

I am now the last survivor of the signatories, and I consider it my duty to keep on reminding people of the message in the Manifesto.

The Manifesto ended with a call to scientists to get together in a Conference to seek ways to avert the danger. One of the first responses was the famous letter from Cyrus Eaton, offering to pay all the expenses of the proposed Conference, if it were held in Pugwash, Nova Scotia.

But it took two years before we actually came here. You have to recall that we were at that time at the height of the Cold War, with all its mistrust and fears, and hostile propaganda. In the United States, the malodorous McCarthy witch hunt was still in the air. Anybody ready to sit down with Soviet scientists, and talk about nuclear weapons and disarmament, was immediately branded as a fellow traveller, if not an actual member of the Communist party. For many American scientists, participation in the Conference might have spelled the end of their professional career, let alone obtaining travel funds from their universities. There were no foundations willing to provide funds for such an enterprise. It was only a fearless person like Cyrus Eaton, who broke the taboo, and made the Conference possible.

Cyrus Eaton was a truly unique personality. He must have had a streak of the hard capitalist in him: he made a

PEACE

begins in Pugwash

where a blue heron waits for the tide
and the salt boat slips from the harbour
at dusk.

At dawn mist rises from the tranquil
water,

and at noon,

beneath the blue and white United
Nations' flag,

on the grassy slope stretching to the
shore-line,

sit multi-lingual scientists

who have heard the rhetoric of war
but understood the poetry of peace.

Sunlight reflects

from myriad miniature silver doves,
and for a split-second, just an eye-blink,
it coalesces around the invisible silver-
white head

of the industrialist-farmer-philosopher,
still in our midst,

even though forty-six years have come
and gone

since that first July.

The light flickers there, gaining strength,
before beaming the message
into the gathering darkness
around the globe:

PEACE.

*Margaret Eaton
July 21, 2003*

million at a young age, lost it, and made much more soon afterwards. But at the same time he was quite eager to go along with the communist system in the Soviet Union, by advocating closer relations with the Soviets at a time when this was seen as an almost treasonable offence in the United States. It was really extraordinary that, in one and the same year, he was chosen US Business Man of the Year, and awarded the Lenin Peace Prize.

And with all this, he was also a scholar. He was a voracious reader, including books on philosophy. In his famous letter to Bertrand Russell, inviting us to come to Pugwash, he said: "I have read all of your fascinating books again and again."

He had a great respect for scientists. This is why he set up an educational trust here, in the Eaton Lodge, his summer residence, for scientists to come for relaxation and to sharpen their thinking. This is why this house is also called "The Thinker's Lodge". There were some unfriendly comments suggesting that he could afford it because all the expense was tax-deductible, but I am convinced that he would have done it in any case. However, the fact that it was the US Treasury that was ultimately financing an organization that was under investigation by the US Senate for anti-American activities, adds much piquancy to the story.

I should note here that while Mr. Cyrus Eaton was a gracious host, he did not—at that stage—interfere with the actual running of the Conference. This was left entirely in the hands of Lord Russell and a few of his helpers, which included myself. All the invitations to participants were issued from my university office in London.

The primary aim was to ensure the participation of eminent scientists from both sides of the Iron Curtain, who were also interested in and knowledgeable about, the issues to be discussed. Conscious of the political climate, that I have just described, Lord Russell was anxious that the participation from the West should not be overrepresented

by people with left-wing views. The effect of this on the group from Britain was peculiar, to say the least. Lord Russell, unable to come to Pugwash himself for health reasons, wanted all the three people who helped him in the organization of the meeting to go to it. But two of these were well known in England for their left-wing views, Cecil Powell and Eric Burlop. Eric Burlop was by far the most militant, and Russell felt that his participation might be harmful. And so we ended up with the bizarre situation of Eric Burlop actually being in Pugwash, and taking part in the discussion, but officially only as a member of the secretariat, and thus not mentioned in the list of participants.

Of course, no such control could be exercised on the participants from the Soviet Union, and the question has often been raised whether there was any truth in the allegation that the Soviet Government tried to use the occasion of the Conference for their propaganda?

The answer is that attempts to use us for such a purpose were in fact made, but they were rather clumsy, and we could see through them easily. To me this became obvious even before the First Conference began here.

Travelling to Pugwash was not then as easy as it is now. All the participants assembled in Montreal. From there we flew by Mr. Eaton's private jet—still uncommon in those days—to Moncton, in New Brunswick. From there we travelled to Pugwash by car, a long journey because the roads were then very bad.

In the car in which I travelled there were two other passengers. One was Academician Alexander Topchiev, the leader of the Soviet Group, a very senior figure in the Soviet Union, with great influence both on science and

politics. But he did not speak any English. This is where the other passenger came in. Mr Vladimir Pavlichenko came to Pugwash as Topchiev's translator. But it did not take me more than half an hour of conversation with him to realize that he had another role, besides translating. He was in fact the KGB man, with the task to ensure that the party line was being followed.



Nestor Acosta Tiele and Eric Ferguson enjoying Scottish bagpiper.

On the first day of the Conference, Alexander Topchiev made an important statement. He spoke in Russian, and was immediately followed by Pavlichenko with the English translation. But he managed to insert into Topshiev's speech some Soviet propaganda. However, he did not reckon with the presence among the American group of Eugene Rabinowitch, who had been born in what was then, and is again now, St. Petersburg. So when Pavlichenko finished, Eugene got up and said, "Mr. Pavlichenko, this was not an exact translation": and then he gave a corrected version of the speech. After this, Pavlichenko was much more circumspect. From later meetings it became clear that the Soviet contingent included two types: genuine scientists, many of them of such eminence in science that they could afford to speak up openly at our meetings even against official Soviet policies; and a few apparatchiks, who came to toe the party line.

So, were we, from the West, naïve and prey to Soviet propaganda? Looking at it now, from the perspective of time, it seems that it actually worked the other way round. Over the years, in many discussions in Pugwash meetings, we managed to persuade our Soviet colleagues that some of the policies pursued by the Soviet Government were leading to disaster. There is good reason to believe that our Russian colleagues, many of whom carried considerable weight in their country, were instrumental in introducing the radical changes made by Mikhail Gorbachev. In particular, we can claim credit for the halting of the nuclear arms race. Gorbachev told us this himself. No mean achievement for a Movement that started here in Pugwash!

Actually, when we came here in 1957, we did not envisage the meeting as the start of a worldwide movement of scientists. We, the organizers, considered it initially as a one-off event. This was so because we feared that the Conference would not be successful. The issues we were going to discuss were so controversial, that even in the West there were strong divisions on them. We were apprehensive that these divisions would become much more exacerbated when confronted with the ideas from the other side of the Iron Curtain.

As it turned out, these fears were unwarranted. The Conference was a great success and we decided to carry on with the effort by setting up a new organization to which we gave the title: "The Pugwash Conferences on Science and World Affairs".

I ascribe this success to several factors. One was that it was a meeting of scientists. Most of the participants were physicists, who knew each other from their publications, if

not from personal contacts. We trusted each other's scientific integrity, and we built on that trust when discussing political issues. This was helped by our decision to conduct the discussions in the scientific spirit of rational approach and objective analysis.

This Conference proved that scientists have a common purpose, which can transcend national frontiers without violating basic loyalties.

A very important factor also was the relaxed and congenial atmosphere of this place to which our hostess, Anne Jones, who later became Mrs. Cyrus Eaton, greatly contributed with her charm, and her *joie de vivre*, undiminished by being confined to a wheelchair.

I hope that your visit today to this serene location will enable you to capture some of that atmosphere, and that it will invigorate you to continue our efforts towards a world of peace, a goal as important today as it was 46 years ago.

Reflections, 1957–2003

Ruth S. Adams

Looking back across a lengthy span of 46 years, the 1957 gathering of scientists in Pugwash still stands out for the bold and forward-looking message it carried to the world. We remember most immediately, of course, the international consensus of scientists it enunciated in the substantive area of controlling nuclear weapons. But no less important was the breakthrough in



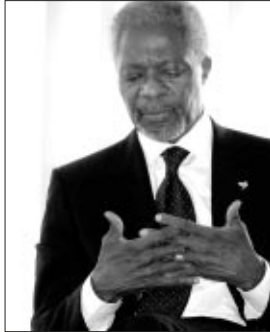
Ruth Adams and Will Marshall.

MESSAGE

TO THE 53RD PUGWASH CONFERENCE ON SCIENCE AND WORLD AFFAIRS

*The Honorable Kofi Annan,
Secretary-General, United Nations*

Your gathering takes place as we grapple with a number of serious issues on the agenda of international peace and security. As we pursue our work in the service of peace, we know that our two institutions have much in common. Both stand for human values that transcend the interests of any one nation state. We stand together in standing for all.



For almost half a century, Pugwash has made a unique contribution by exploring ways to channel the insights and methods of science into the service of the public good, particularly the cause of world peace. I applaud the focus of this years conference on the challenge of advancing human security, which calls for fresh efforts around the globe on a number of fronts: eliminating nuclear weapons and other weapons of mass destruction; curbing the development, production, and export of long-range missiles; banning weapons from space; combating terrorism; addressing threats to the environment; and promoting social and economic development through the prudent use of science and technology. The number of countries represented at this gathering is eloquent testimony of your truly global approach to these and other issues. I thank every one of you for your commitment, and wish you a most stimulating conference.

the relationships and depth of communications it embodied, at that time especially among scientists, across not only international borders but social systems, political regimes, and hemispheres.

Globalization today has taken on other meanings as well, some of them controversial, but most fundamentally it refers to the outward spread to all of the world's peoples and to every walk of life, of that original outlook that Pugwash quite breathtakingly embodied. My own opportunity to participate was a result of having worked with Eugene Rabinowitch as assistant editor of the *Bulletin of Atomic Scientists*. Born in St. Petersburg, the tumultuous political events of his life brought him to Chicago and the Manhattan Project during World War II. A prolific writer and sensitive analyst of political issues, he made important contributions to the Pugwash movement and attended all of its meetings during his lifetime. Published reports of the discussions and agreements regularly appeared in the *Bulletin*. I must have been one of the youngest participants at the original gathering. That first meeting was to shape most of the following decades of my life. But along with the many strands of continuity of which I remain deeply conscious, I am no less conscious of the extraordinary array of world changes in which we have sometimes reluctantly, sometimes eagerly, participated. We need to think today as much about the kaleidoscopic changes of context that Pugwash and its membership have endured, adapted to, and tried both to shape and to anticipate, as we reflect on the community we have become and the long list of achievements for which we can take credit.

As a young woman finding her way in the post-World War II period, my path of convergence with the concerns that led to Pugwash focused on human rights that were then, as now are still, under attack. The stifling of discourse and diversity represented by the McCarthy hearings was very much with us then. Peacemaking itself was widely regarded as suspect, under the threatening cloud of a nuclear holocaust that was still recent enough for many of the Cold War calculations accompanying it to come as highly unpleasant surprises. The many scientists and scholars who had come to the University of Chicago as refugees had substantially transformed its character, contributing directly to the establishment not only of the *Bulletin of Atomic Scientists* but later the Federation of American Scientists. The Iron Curtain that had descended very soon after the war had the effect for some time of imprisoning the values and goals of peoples on both sides.

Then out of correspondence in 1955 came the Russell-

Einstein appeal. To those of us in Chicago it was like finding a crack in the Iron Curtain. Especially to me, and to many of those in my generation in that setting, it gave meaning and set a principled direction that we could follow with enthusiasm. It is easy to forget now that war had had the universal effect of concentrating science in government laboratories, on goals and priorities set with essentially no regard for scientific imperatives, and under conditions of secrecy that greatly impeded communication even among immediate colleagues in the same institution. The 'fifties were a time when that force of obstruction was beginning to lift, when educational and scientific institutions were reasserting their independence, when the need for open communication and cooperation on common, great problems across all boundaries once again became apparent. We were a part of that, and very much in the forefront of it.

The physical sciences were still in their government-imposed ascendancy at the time, but excitement was in the air of coming revolutions in biology. Science in not-for-profit and corporate settings was still largely seen as a different kind of enterprise. But there too, coming change was visible along a distant horizon. These enormous changes are all around us now, parts of Pugwash's intimate environment. I hope we can find ways to embrace

them, and at the same time shape them within a framework of consistent principles and values, just as we originally took leadership in finding an international basis for confronting the nuclear peril.

Still taken as a given at our first meeting, as I reflect upon it, was the sovereignty of the nation-states from which we all came, and of a general acceptance of the paramount claims which the regimes in most of those states felt free to make upon our behavior, basic values, and loyalty. Those paramount claims are more contested today than they were then. The UN is no longer in its infancy, even if the limitations of its powers are more apparent than what we then hoped. Today there are many international communities that embody shared values and loyalties. They do not erase national boundaries, but they mitigate and circumscribe their more absolutist meanings. Pugwash is among the very best of these trans-national communities. I look back with gratitude and pride on the decades of my association with it.

Some of you here today are members of the third generation since Pugwash began, and in itself your presence is dramatic evidence of the success of the Pugwash conferences. As we reflect on our origins we pay tribute to all the young scientists who continue to work for peace and security.



Participants at first Pugwash Conference, July 1957.

Advancing Human Security: The Role of Technology and Politics

Halifax and Pugwash, Nova Scotia, Canada, 14–22 July 2003

KEYNOTE ADDRESS:

Promoting Human Security: The Experience of Reconstruction

By Susan Whelan
Minister for International Cooperation

Good afternoon, Senator Roche, Professor Swaminathan, Professor Cotta-Ramusino, Dr. Boutwell and everyone who worked towards making this conference possible. It is an honour to be with you here today.

History and culture make the times of peace and conflict in every country unique. Even so, there are clearly some constants across all the differences. One of them is this: peace and human security are basic prerequisites for sustainable development.

Let's consider for a moment the legacy of four Balkan wars in the 1990's. During these conflicts, 200,000 people were killed and three million residents were forced to flee their homes. More than 1,000 UN peacekeepers were killed or wounded. Material damage was estimated at 20 to 60 billion dollars. Buried, but not forgotten, there are more than 300 suspected mass grave sites, and more than three million land mines throughout the region. Real Gross Domestic Product fell to half of its 1989 levels.

In these horrific numbers that paint a picture of states in conflict, it's easy to lose sight of the challenges, tragedies, and triumphs of the individuals caught within them.

If you were a parent in Northern Uganda, or some other region where 15,000 children have been killed or kidnapped from their schools during the last 16 years to serve as child soldiers and sex slaves, how would you feel about sending your child to school?

If you were a farmer in Mozambique, or some other

country where the danger and destruction of conflict continued long after fighting stopped because of the millions of land mines seeded into the ground, how would you feel about planting crops in those fields?

If you were an entrepreneur in Sri Lanka, or anywhere experiencing long years of conflict and uncertain truces, how would you feel about creating or expanding a business to create new jobs, without the assurance of personal or state security? Even if you wanted to take the risk, would it be possible if roads and other basic infrastructure were still destroyed?

Conflict causes devastation: death, injury, disease, property loss and poverty. What is equally true but bears repeating, is that violent conflict stops and reverses sustainable development—that delicate balancing of social, economic and environmental elements that are essential to improving the lives of people today, without compromising the chances for future generations to do the same.

Now, I'm certain this isn't news to people like yourselves, who are committed to promoting peace, human security, and sustainable development. It is only relatively

recently, however, that the international community has started to formally articulate these ideas.

In 1997, at a high-level meeting of the Development Assistance Committee (DAC) of the Organisation for Economic Cooperation and Development, or OECD, development ministers endorsed a policy statement entitled, "Conflict, Peace and Development on the Threshold of the 21st Century." Canada played a significant role in the development of these DAC guidelines, and with their 2001 supplement on "Helping Prevent Violent Conflict."

Briefly, the DAC guidelines offer some principles to partners engaged in international development for effec-



The Honourable Susan Whelan.

tive action in conflict situations. They recognize both the opportunities and the limits of third-party or external influence. Noting that all aid has political consequences, the guidelines call on aid policy makers to try to ensure that aid does not exacerbate tension, prolong conflict, or reinforce or legitimize parties in conflict, all while maximizing benefits. Other principles call for: transparency; encouraging and maintaining inclusive dialogue; reinforcing local capacities; recognizing women as stakeholders and peacemakers; working with war-affected children and youth; acting in timely and flexible ways and thinking long-term; and using creative, incentive-driven approaches for constructive engagement. The benefits of peace must be seen to be clearly preferable to the perceived benefits of conflict. Finally, there is a call to “act on the costly lessons learned about the need for coordinated and coherent action and policy.” The DAC guidelines are the intellectual context for Canada’s post-conflict reconstruction assistance.

To be effective, that assistance must be part of coordinated diplomatic, military, trade and aid responses. This is something we have been doing for a number of years; but again, it is only recently that the Canadian government has started to articulate what we are calling the 3D model—diplomacy, defense and development—that brings together three different departments within the Government of Canada. The activities of all these departments have an impact on developing countries, and the increasing policy coherence encouraged by this coordination is essential to strengthening aid effectiveness and promoting sustainable development.

My department, the Canadian International Development Agency, or CIDA, has a mandate to support sustainable development in developing countries to reduce poverty for a more secure, equitable and prosperous world. It is primarily responsible for Canada’s Official Development Assistance.

CIDA, the Department of National Defense and the Department of Foreign Affairs and International Trade are increasingly working together on peace building and human security, including conflict prevention. Canada’s work on land mines, for example, involves the three main players in diplomacy, defense and development, as well as Industry Canada.

The Canadian Peacebuilding Initiative, which is a joint undertaking of CIDA and the Department of Foreign Affairs, is another good example of collaboration. At CIDA, the Peacebuilding Fund provides resources to

Canadian and international groups for a variety of innovative projects ranging from small arms collection in Mozambique to voter education in Afghanistan. At the Department of Foreign Affairs, the Human Security Program contributes to policy advocacy focused on countering threats of violence and conflict. In fact, some of the funding for this event today came from this program, and my colleague Minister Graham sends his regrets that he is unable to attend.

Since the end of the Cold War, the international security agenda has changed dramatically. Most humanitarian crises today are in conflict zones. Places like Kosovo, Afghanistan and Iraq spring to mind, as do the Congo and Liberia. Most of these conflicts occur within states rather than between separate countries. The protracted nature of these internal conflicts, and their impact on poverty and human rights, has led agencies like CIDA to renew their commitment to conflict prevention, while having to grapple with the realities of post-conflict reconciliation and reconstruction.

Canada’s Human Security Agenda is made up of five areas: conflict prevention, governance and accountability, protection of civilians, peace support operations and public safety. All of these elements, including the respect for human rights, are necessary for creating a world in which people live free from fear.

In peace support operations, CIDA and the Department of Foreign Affairs work with our Canadian forces and local communities in countries that have experienced conflict to promote the transition to sustainable peace.

CIDA and the Department of Foreign Affairs also work with the Office of the Solicitor General, the Royal Canadian Mounted Police and the Department of Justice on a number of judicial and police-related activities.

I want to focus on Canada’s work in the Balkans as an example of our work in post-conflict peace building.

I began this afternoon with an outline of some of the consequences of the prolonged conflict in the Balkans. From the first, Canada was involved diplomatically and militarily, primarily with peacekeeping in Bosnia-Herzegovina, but also taking part in the NATO force which acted in 1999 to halt and prevent further ethnic cleansing in Kosovo.

Canada was also involved in getting humanitarian assistance to people in need. Meeting basic human needs is always a primary concern in reconstruction. Since 1999, CIDA has supported the distribution of shelter, winter

clothing, medicine, food and water to more than 900,000 returning refugees and displaced persons in the region.

Safety and security is another basic need that is most obviously lacking during conflict. Canada deployed over 250 police officers to Kosovo, Bosnia and Macedonia to fill the security vacuum in the immediate post-conflict periods. We created a \$20-million mine action program. We supported the rule of law by: deploying forensic teams to gather evidence for the prosecution of war crimes, developing a self-sustaining correctional service in Kosovo, providing training to foster regional cooperation and build capacity in police services, providing training for judges to improve skills and promote independence and impartiality, as well as by advising on parliamentary reform to increase transparency and effectiveness.

We provided budgetary support to the UN mission in Kosovo and deployed Canadians with valuable expertise in human rights and justice to multilateral institutions working in the Balkans. All of these activities succeeded in providing a measure of security and stability that allowed other reconstruction and reforms to proceed.

Canada was active in establishing the International Crimes Tribunal to deal with those who have committed atrocities. We also took the lead on the International Criminal Court to ensure that perpetrators of atrocities will be held to account by the international community. In March, senior Canadian diplomat Philippe Kirsch, a leading figure in the recent establishment of the International Criminal Court, was elected one of its judges and its first President. There can be no impunity for war crimes at any level if there is to be a substantive return to rule of law. People must be able to see that there can be, and will be, justice.

In order to help rebuild the quality of life and not just ensure survival in the Balkans, we are helping to improve the quality of health, education, energy and communication services, and we are supporting small- and medium-sized enterprises by addressing constraints to business development.

What have we learned from all this activity?

First, material aid is not enough. Weak or failed states need institutions that work, and that are seen to be working so that laws are properly debated and universally applied and obeyed. This kind of capacity-building, as with all development, is most effective in the context of an overarching and coherent plan for peace, reconstruction and sustainable development.

Second, flexible delivery mechanisms are critical to the

ability of aid agencies like CIDA to respond in conflict and post-conflict situations. For example, a Civilian Deployment mechanism allows CIDA to deploy a wide range of Canadian expertise from the public and private sectors to assist partner countries with peace support and reform activities.

Third, we have a lot more to learn. Like other donors, CIDA has struggled in the western Balkans with the balancing act required to integrate solid analysis and conflict prevention approaches with the day-to-day challenges of managing a development program.

Collaboration and coordination have proven their worth for Canadian activities in the Balkans. One example of the 3D model is the Civil-Military Cooperation program. Canadian Forces on the ground help local people make connections with other individuals and organizations who can help them to accomplish their own development goals. I had the opportunity to see for myself this kind of cooperation in action in Bosnia when I visited that country in May this year.

The lessons we are learning in reconstruction activities follow some basic principles:

Local ownership, donor coordination, policy coherence, and the need for good governance.

Last September, I launched a policy statement on strengthening aid effectiveness which was based on these same principles. They guide our work in general, and are clearly being applied to our post-conflict reconstruction efforts in Afghanistan, for example.

Under the Bonn Agreement of December 2001, the international community and Afghan representatives established the interim government for Afghanistan and the action plan for rebuilding the nation. A significant part of that rebuilding effort involves the re-establishment of good governance in the country.

Just over half of the assistance CIDA provided to Afghanistan last year was in support of the government's operating budget and various programs related to nation-building efforts, to promote stability and prevent further conflict, internally and as well as internationally. This summer, Canada becomes one of the largest troop-contributing nations to the International Security Assistance Force. Together, CIDA and National Defense will build on our experience and success in the Balkans by putting a Civil-Military Cooperation program into effect.

The rebuilding of Afghanistan has to be owned by Afghans, but they need international financial support to do it. The 1998 World Bank study "Assessing Aid: What

Works and Why?” concluded that aid should be increasingly allocated to poor countries with strong policy environments to maximize positive results. However, it also stated that timely reconstruction assistance can have a critical development impact. In poor-performing, low-income countries emerging from a situation of protracted conflict, significant amounts of well-targeted aid can have the most beneficial impact on economic growth and poverty reduction. Without sufficient outside assistance, they risk slipping back into conflict.

All of these lessons learned are also helping to guide our reconstruction efforts in Iraq, which are only just beginning. Canada’s focus will be assistance to rebuild Iraqi institutions. Basic services like health care, water, and sanitation are obviously a priority; but we will also support legal reform, judicial reform and critical elements like police and correction services.

The most important lessons about peace, conflict, reconstruction and development are not new ideas in the least, but they may perhaps be the hardest lessons to learn and put into practice. Nearly half a century ago, in his acceptance speech of the Nobel Peace Prize, former Cana-

dian Prime Minister Lester B. Pearson said:

“Just as we cannot in this day have a stable national democracy without progress in living standards, without too great extremes of wealth and poverty, likewise we cannot have One World at peace without a general social and economic progress in the same direction.”

With peace a necessary prerequisite for sustainable development, and with the journey through peace building and reconstruction as long and arduous as it is, conflict prevention is all the more desirable. Very simply, it is central to poverty reduction and sustainable development. Development agencies must accept the risk of working on conflict and conflict prevention, rather than around it.

In recent years, more than 80 percent of CIDA’s humanitarian assistance has gone to help victims of conflict—human-made disasters—rather than hurricanes, earthquakes, or drought. We need to turn this power to destroy towards more positive ends, not just to rebuild after conflict, but to prevent it from happening in the first place. The challenges are great, but so is our commitment to facing them, for peace, for prosperity, for people.

Thank you.



Advancing Human Security: The Role of Technology and Politics

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DOROTHY HODGKIN MEMORIAL LECTURE

The Resurrection of Multilateral Disarmament

Jayantha Dhanapala



Introduction

My warm thanks to the Pugwash Conferences on Science and World Affairs for the great honour of being invited to deliver the Dorothy Hodgkin

Memorial Lecture. I am not a scientist and must admit to being among those who have suffered from the schism of the ‘two cultures’ of the sciences and the humanities which C.P. Snow famously spoke of in his historic 1959 Rede Lecture. It is a schism which has still to be bridged in modern education even though the complexity of contemporary life demands a more holistic and integrated approach to all issues that face us today and which the ubiquity of ICT alone cannot achieve.

I have, however, been a longtime admirer of the firm principles and dedicated endeavours of the Pugwash Movement which has deservedly earned you all the Nobel Peace Prize in 1995. The Russell-Einstein Manifesto of 1955—the 50th anniversary of which will be observed in 2005—remains an awesomely prescient and inspiring document for the peace and disarmament movement. As a testament of nuclear disarmament and the abolition of war it will remain historic. But it is also a virtual Hippocratic Oath for scientists confronted with the eternal dilemma of dual use ingenuity. It is a statement of conscience and of accountability of all scientists as human beings. As Bertrand Russell wrote in his letter of 5th April, 1955 to Albert Einstein, “Scientists have, and feel they have, a special responsibility, since their work has unintentionally caused our present dangers.” It is not only to scientists

that the Russell-Einstein Manifesto appeals but to scientists as human beings faced with the extinction of their species if nuclear weapons are ever used again. This is where these two wise men were echoing the words of Immanuel Kant who once wrote “Science is organized knowledge. Wisdom is organized life”. We have, 48 years after the Russell-Einstein Manifesto was issued, still to make the transition from knowledge to wisdom and to respond to its appeal that “We have to learn to think in a new way” on questions of weapons of mass destruction (WMD).

This lecture is in memory of Dr. Dorothy Crowfoot Hodgkin—chemist, pioneer crystallographer, Nobel Laureate and of course—as President of Pugwash—supporter of the humanist and humanitarian cause of nuclear disarmament. I hope my modest contribution will be seen as an act of homage to her memory.

The Problems

I have chosen to speak on “The Resurrection of Multilateral Disarmament” before a group of very distinguished scientists not because I am a naïve optimist or because I seek some genetic engineering breakthrough to invent a new clone to bring about transformational change in the disarmament field. The multilateral system for disarmament and arms limitation is widely regarded today as moribund. The responsible approach for those of us who remain committed to disarmament through the rule of international law is not merely to engage in hand wringing. We must do something to breathe new life into the system. Disarmament, especially the disarmament of WMD, is at a critical crossroad. It is true that we tend to identify periods of time as being critical when we disagree with contemporary trends. The Russell-Einstein Manifesto refers to times of peril during the Cold War. It is over a

decade since the end of the Cold War led to an illusion of security as the prospect of global nuclear war receded into the background. The disarmament endeavour did lead to positive results in the past. Concrete reductions of nuclear weapons through actual destruction of missiles followed the INF and START I. Reductions (but not destruction) of deployed strategic weapons followed more recently after the Moscow treaty of May 2002 although most of us do not consider this a disarmament treaty. As a result we do have fewer nuclear weapons deployed today than at the height of the Cold War. The Comprehensive Nuclear Test Ban Treaty (CTBT) was signed in 1996 in a dramatic breakthrough for the advocates of nuclear disarmament who had long seen this as a litmus test of the political will to disarm. These apparent successes are now not only under siege but they stand a real danger of being overturned as nuclear weapons are, quite unabashedly, being given a new rationale and the dangers of both indefinite possession and proliferation have acquired a new urgency. Not only has the threshold for the actual use of nuclear weapons been lowered dangerously but allegations of WMD possession are being trivialized as *casus belli* without verifiable proof. The ideological basis for this existed in some countries before the events of 11 September 2001 but today counter-terrorism has been widely cited as the reason for massive increases in military expenditure.

Before we can revive the disarmament process let us analyze what afflicts it. The problems confronting the world in so far as WMD are concerned are complex. I would like to place them in five categories. The first is the horizontal proliferation of nuclear weapons beyond the five nuclear weapon states recognized in the Nuclear Non-proliferation Treaty (NPT). With the South Asian nuclear tests of 1998 we have, *de facto*, 8 countries with a nuclear weapon capability (not counting the Democratic People's Republic of Korea). A dilemma, both political and moral, lies at the root of the non-recognition of Israel, India and Pakistan as nuclear weapon states. And yet without their active co-operation we are unable to make progress on nuclear disarmament let alone nuclear abolition. In every one of the cases of proliferation since the NPT was signed in 1968, a recognized nuclear weapon state has either wittingly (for *raisons d'état*) or unwittingly (through careless custody of nuclear material and /or technology or naïve transfer of technology arrangements) been the source of the transfer of this technology. The burden of guilt, what-

ever the circumstances, is clear. What are worse are the dual standards being adopted towards proliferation with some proliferation being regarded as benign and others as being downright evil depending on the nature of the ruling regime in the proliferating country. This Manichean judgment is made in terms of the relationship of the proliferating countries towards particular powers unmindful of the fact that regimes change and with them the relationships forged with the powers. The proliferation of nuclear weapons to Israel, India and Pakistan though not formally recognized is certainly being accepted as inevitable and irreversible. Realpolitik has played its role in this notwithstanding Security Council Resolution 1172 in respect of India and Pakistan. Countries who have had the capability of going nuclear and have not done so have witnessed this 'managed proliferation' with concern. Some may even be encouraged to harbour secret ambitions to go nuclear. The publicly declared stance of the Democratic People's Republic of Korea (DPRK) to withdraw from the NPT and announce its nuclear ambitions has raised the fear of proliferation in North-east Asia beyond DPRK in a sort of domino effect. We cannot forge a principled multilateral response to violations of non-proliferation norms if some members of the international community choose to look the other way. All this is symptomatic of a weakening of the non-proliferation norm and some cynicism regarding the subjective manner with which it has been implemented.

The second category of problems is connected to the first because of the failure of existing nuclear weapon states to fulfill their promises to disarm and to achieve the total elimination of nuclear weapons. As long as nuclear weapon states continue to enjoy the power, deterrence effects and influence derived directly from nuclear weapon possession we cannot realistically expect the non-proliferation norm to hold indefinitely. This is not to cite the record of nuclear weapon states as extenuating circumstances for nuclear proliferation. No WMD proliferation is acceptable. Our moral and indeed our scientific position would, however, not be complete if we did not at the same time deplore the continued possession of nuclear weapons by those who have them. The brazen withdrawal of DPRK from the NPT and its open admission of a nuclear weapon programme have left the international community perplexed as to what credible and effective action can be taken. The IAEA has asked Iran to sign the Additional Protocol on safeguards as a demonstration of

good faith on Iran's part and as a means of enabling the IAEA to expand its verification powers. We may well have more countries following the proliferation route either overtly or covertly especially since it is a moot point whether the invasion of Iraq has encouraged or deterred more countries to acquire WMD. The 'nth country' syndrome that was widely discussed in apocalyptic terms in the 1950s and 1960s has returned to haunt us.

The NPT was expected to be the bulwark to halt the trend towards proliferation and it has served that purpose admirably for three decades with the exception of Iraq and DPRK. Do we need fresh mechanisms now or do we need to end forever the casteism or apartheid between the 'haves' and the 'have-nots'? Those who have nuclear weapons regard it as their 'manifest destiny' while those who do not, appear to be under a 'cargo cult'—if I may borrow a term from the cultural anthropologists who write of the mesmerizing effect of manufactured goods being brought into developing countries by plane. Assuming that some supernatural force had endowed these developed industrialized countries with manufactured goods, the traditional societies of Melanesia in the 19th century prayed to the spirits of the dead to bring them cargoes of modern goods for distribution and restore their golden age to them. Sadly today the possession of WMD is seen as an attribute of power and development which can ensure independence and sovereignty. It is a quest to be 'mimic men' which V.S. Naipaul writes of in one of his early novels or the 'Brown Sahib' syndrome familiar to South Asians like me. The attractions of nuclear weapons in particular acquire greater urgency for medium to large size countries in conflict-ridden regional situations that have a reasonably strong industrial base to sustain a nuclear weapon development programme. That it conflicts with solemn treaty undertakings and international conventions is seen as less important than the overriding national security interest. After all the same argument of the supremacy of national interest is used by nuclear weapon states to abrogate treaties, to refuse to sign other internationally agreed conventions to protect global welfare and to actually attempt the legal invention of 'unsigned' treaties with impunity.

The third set of problems arises from the serious emergence of the danger that WMD may be used by terrorists or sub-national groups for anarchist, secessionist or other purposes. This danger predated September 11, 2001. It

was among the reasons why the breakup of the Soviet Union was viewed with such alarm by those who cared about the safeguarding of nuclear materials and technology in the former Soviet states and the future of the trained nuclear scientists there. It was the first time in history that a nuclear weapon state had imploded and we have not learned any lessons that would make the next break-up of a nuclear weapon state any easier to manage. The visionary Nunn-Lugar Co-operative Threat Reduction programme has contributed greatly towards mitigating the problem but despite this too many reports of leakages of material continue to be recorded. It proves not only that the safeguards are still inadequate but also that a demand continues for such materials with many shadowy groups in the market. After September 11, 2001 when the astonishing scale of the terrorist attacks in the USA were revealed, the relief that WMD were not used was quickly replaced by a deeper anxiety that such use was not beyond the reach of the organizational capacity of Al Qaeda and similarly well-funded and fanatical groups with their global reach. That anxiety is well founded not only in respect of nuclear weapons and the more likely danger of a 'dirty bomb' (or a radiological device to disperse radioactive material through the use of conventional explosives) but also with biological and chemical weapons where the detection of clandestine programmes is more difficult.

A different category of problems exists in the paralysis of the disarmament machinery and the weakening of the multilateral system which provided the context for constructive and result-oriented multilateral disarmament diplomacy. Twenty-five years after the First Special Session of the UN General Assembly devoted to Disarmament (SSOD I) achieved its remarkable Final Document by consensus we find the machinery it set up for the deliberation and negotiation of disarmament issues in disarray. The 66 member Geneva based Conference on Disarmament (CD)—a direct descendant of the Eighteen Nation Disarmament Commission (ENDC)—has not even been able to agree on a programme of work because of disagreements on the priorities of the disarmament agenda. Some states believe that the CD should resume work on negotiating a Fissile Material Treaty (FMT) for which a mandate—the Shannon Mandate—was agreed upon sometime ago. Others argue that concurrently with negotiations for a FMT work should also begin on the prevention of an arms race

in outer space, on nuclear disarmament and on negative security assurances on the basis of mandates that could be non-negotiating if necessary. An earlier compromise formula by the then Brazilian Ambassador Amorim has now been elaborated as a proposal from five past Presidents of the CD cutting across group loyalties. This has failed to find acceptance and clearly the main actors in the stalemate are the USA and China. A lack-lustre debate is held perfunctorily when the CD meets but increasingly member states are losing faith in the process and some have withdrawn the Ambassadors they had specially accredited to this important body. Misguided calls for the abolition of the CD are dangerous. It is easier to destroy multilateral institutions than to create them. The CD has been idle for long periods before especially during the Cold War and I have no doubt that when political will reappears the CD will resume functioning.

In the cluster of deliberative bodies the First Committee of the General Assembly is the forum for disarmament and security issues. It meets annually during the autumn for approximately 5 weeks to go through an agenda of items. Some of them are 'hardy perennials' which are debated ritualistically and voted upon. Consensus is reached on a few resolutions but the resolutions on nuclear issues are invariably adopted with a division. Voting patterns have changed over the years with most of the former Warsaw Pact countries now voting with NATO while the countries of the Non-aligned Movement (NAM) are no longer as tightly-knit as during the Cold War. The Security Council's discussion and action on disarmament issues has been confined to proliferation of WMD as in the Summit held in January 1992. It has also addressed country-specific situations as with Iraq. Another special meeting of the Security Council to discuss WMD proliferation issues is projected for later this year with a view to creating a mechanism analogous to the Counter Terrorism Committee (CTC) set up in the immediate aftermath of 9/11. This, I fear, will only reignite the concerns of the non-nuclear weapon states that the casteism of the 'haves' and 'have-nots' is being institutionalized at a time when a more inclusive approach is needed. The more specialized disarmament forum—the Disarmament Commission—failed to meet in its 50th year in 2002 and this year concluded its session without consensus on the two issues it had on its agenda for four years. In addition the Working Group set up by a resolution of the General Assembly to

agree on an agenda for a fourth special session of the General Assembly on disarmament (SSOD IV) failed to reach consensus.

All these diplomatic failures are of course indicative of a general malaise in the political arena and cannot be blamed on the machinery itself or its individual components. Political will is frequently cited in diplomatic negotiations—the presence or absence of which can make a vast difference. Clearly the political will of key countries is more important than others. The generation of political will depends largely on public opinion in democracies, on pressures brought to bear on countries and on the policies pursued by incumbent governments. Ultimately it is the world view of a small group of very powerful countries that determines whether multilateral disarmament will work or not. It could decide to let some aspects of multilateral disarmament work in a sort of 'à la carte' multilateralist approach. This indeed appears to be present situation where on Small Arms and Light Weapons (SALW) we have a Programme of Action being implemented globally. On antipersonnel landmines, the Mine Ban Convention and the Additional Protocol of the CCW Convention are working on parallel tracks. A change of policy of a super-power like the USA can accelerate progress dramatically as happened when the Clinton Administration decided, against pressures from some vested interests, to begin negotiations on a CTBT bringing many of its allies to the table reluctantly. Today with the rejection of the ratification of the CTBT by the US Senate and the current Administration's policy the prospects for the entry into force of the CTBT are bleak.

Finally there is the category of problems arising from prevailing strategic or defence doctrines. It is the pursuit of these doctrines that influence decision-making in key countries and until these doctrines are abandoned or revised the current crisis in multilateral disarmament is unlikely to end. In the time of the Cold War the doctrine of Mutual Assured Destruction (MAD) was well known. The conventional arms superiority of the former USSR resulted in that country's adoption of the nuclear policy of 'no first use'. This was abandoned after the Cold War when NATO was perceived to have a conventional arms superiority. Russian diplomats have told me that they were instructed to mine the statements of US representatives during the Cold War to find arguments in favour of this volte face!! Today only China and India have 'no first use'

policies. It had also been expected that with the end of the Cold War there would be a lower salience of nuclear weapons in strategic doctrines and military strategies. However NATO—the only surviving military alliance and with additional members—remains wedded to the use of nuclear weapons, admittedly as a weapon of last resort. The efforts of Germany and Canada to have this reviewed have failed so far and small wonder that Russia therefore shows more reliance on nuclear weapons today.

The US, as the largest nuclear weapon state, has recently issued its Nuclear Posture Review and National Security Strategy. Both documents represent a fundamental change in post Cold war trends. Firstly the threshold for the actual use of weapons is being lowered dangerously as pre-emptive uses are planned even against non-nuclear weapon states. The contradiction of this with the Advisory Opinion of the International Court of Justice in 1996 and the Security Council Resolution 984 of 1995 providing security assurances for non-nuclear weapon states is obvious. Secondly the new policy—subsequently ratified by Congressional budgetary approval—is to begin research and development on ‘mini-nukes’ or low-yield nuclear weapons for specific purposes such as ‘bunker busters’ to penetrate hardened and deeply buried targets. The period of notice required for a resumption of nuclear testing has also been shortened although the Bush Administration has repeatedly stated that there is no intention to resume testing ‘for the moment’. The other nuclear weapon states are also reportedly modernizing their nuclear weapons and continue research and development with a view to developing new generations of weapons. The new salience being given to nuclear weapons takes place in a context of resurgent militarism as global military expenditure reaches the heights of the Cold War years with the USA clearly in the lead. The unilateral abrogation of the ABM Treaty in order to clear the way for the development and eventual deployment of ballistic missile defence systems will also involve huge investments for a programme that is of doubtful value especially with the asymmetric warfare strategy of terrorist groups and the acknowledged vulnerability of the system. The distinction between offensive and defensive military doctrines is becoming blurred. Doctrines which involve the pre-emptive use of a weapon of mass destruction institutionalize violence. The distinction between the civilized world basing its actions on law and reason and the world of the ter-

rorist using indiscriminate violence on the basis that the end justifies the means must be maintained at all times.

Possible Solutions

I have laid out a litany of troubles. Now what do we do about it? The enormity of the challenges I have discussed in their five categories cannot be overcome with any one magic solution. Nor can a half hour lecture hope to suggest all the solutions to resurrect multilateral disarmament the death of which has been triumphantly proclaimed by the neo-conservatives of Washington D.C. think-tanks. I do believe however that the time has come for us all to ‘think in a new way’ as the Russell-Einstein Manifesto has urged us. Innovative ideas do not all come spontaneously. They require a collective endeavour. We have had the experience of high level commissions produce new ways of thinking and new concepts in the post World War II era. Institutions like the UN have also produced new ideas like ‘human development’ and ‘good governance’ and the ongoing project on the intellectual history of the UN will no doubt record this. But institutions have their own bureaucratic processes and their budgetary problems. We need a flexible and supple mechanism to seed a global change that will encompass all the global and regional organizations including the UN. Just as the Brandt Commission sensitized us all to the North/South divide; the Brundtland Commission gave us the concept of ‘sustainable development’ and the more recent International Commission on Intervention and State Sovereignty—sponsored by our host country Canada—yielded the concept of ‘the responsibility to protect’ we could also establish a commission to analyze the problems of multilateral disarmament and prescribe solutions. I have therefore proposed since April 2002, an International Commission on Weapons of Mass Destruction to be launched with senior political figures of influence and outstanding experts to examine the current state of affairs and recommend measures to break out of this situation. I am delighted that the Government of Sweden has on 3 July this year announced the establishment of such a Commission to be chaired by Dr. Hans Blix whose luminous integrity, unquestioned expertise and rich experience equip him well for the task ahead. We await further details about the Commission to be made available in the autumn. Some argue that the disarmament norms created after World War II are no longer valid in a changed global situation although they propose

nothing to replace these norms. A global order is essential especially in the context of globalization. We cannot regress to anarchy or a situation where the most powerful dictate the rules. If we need to refashion or adapt norms or create fresh norms we must do so as a global community seeking the co-operation of all.

The Commission that I have advocated must have a broader mandate than nuclear weapons which was the Canberra Commission's mandate. Today chemical and biological weapons, despite being the subject of Conventions totally banning their production and use, have different levels of verification. The new threat of terrorism has enhanced the danger of the actual use of these weapons while the lack of universality in the two legal regimes governing these weapons is also worrisome. Civil defence programmes are increasingly preoccupied with the likely use of these weapons. The lethality of nuclear weapons in comparison to chemical and biological weapons is well established. However, for the purposes of a Commission we do not need to establish a hierarchy of weapons as long as we treat all WMD in one category because of their common threat to humankind, their indiscriminate nature and our need to ensure the survival of the human race. The collapse of the seven year process to develop a Protocol to strengthen the 1972 Biological Weapons Convention (BWC) leaves the BWC without any effective verification mechanisms. In addition the mandate of the proposed Commission must include both the disarmament dimension and the proliferation aspect. To focus on one to the exclusion of the other would cause a major problem for the credibility of the Commission. The majority of the international community belongs to the NPT, the BWC and the CWC and would need to be convinced of the political objectivity of the Commission. The dangers of terrorist uses of WMD must also feature prominently in the mandate of the Commission. A carefully composed Commission with due regard to political and geographical diversity and gender balance supported if possible by a panel of experts, could over a period of time develop a set of innovative and far-reaching recommendations that could get us all out of the present rut. I am personally aware that UN Secretary-General Kofi Annan supports the proposal in principle and would be ready to have the Commission present its report to him in the same way that the International Commission on Intervention and State Sovereignty did. This could have influential policy implications.

Apart from the establishment of an International Commission the international community has a tool kit available to it for immediate action. For example, the Board of Governors of the IAEA can begin, as it has done with Iran, to demand that all states that plan to have nuclear power projects for peaceful purposes must sign the Additional Protocol to widen the agency's verification potential in their countries. The Article IV provision in the NPT for the peaceful uses of nuclear energy cannot be read as an absolute entitlement. It is an incentive and should have been more generously implemented by developed countries to fund non-power projects in areas like medicine and agriculture. For nuclear power projects, given the thin line separating peaceful and non-peaceful uses of nuclear energy and the fact that existing arrangements to safeguard declared facilities have proved inadequate, it is reasonable for additional measures to be taken as a confidence building measure internationally. Equally more money can be pledged for non-power uses in the same way as the G8 pledged \$20 billion for Co-operative Threat Reduction measures last year. Thus the signature of the Additional Protocol, hitherto a voluntary measure, will be deemed to be a pre-requisite for the supply of nuclear projects, fuel and other assistance.

There are other measures open to the international community in the nuclear area. Strategic nuclear weapons remain an important area for action by the nuclear weapon states. Equally important, if not more so, is the question of sub-strategic or tactical nuclear weapons which must be addressed urgently. While the entry into force of the CTBT remains dependent on the political will of the USA we can legitimately expect India and Pakistan, who promised to do so in 1998, to sign the CTBT as a first step and as evidence of responsible behaviour. On a FMT while the CD remains deadlocked it is important that informal discussions commence among the 8 nuclear weapon capable countries so that when negotiations in the CD do begin they will have a basis to build on. Another measure that is now being recognized is the need for more funding for the IAEA and the OPCW to conduct their verification responsibilities as well as to take special measures against terrorist uses of WMD. The strengthening of the Convention for the Physical Protection of Nuclear Material, greater circumspection in the transport of nuclear material and the multilateralisation of the Co-operative Threat Reduction programme are among other measures

that can be taken without delay.

In the chemical weapons area, the OPCW under its energetic new leadership and with strong US support now must prove that its unique verification powers under the CWC can in fact be implemented. This would instill confidence in verification procedures and in disarmament treaties amidst the propaganda about the virtues of 'paperless disarmament' and the dangers of placing too much faith in treaties. Countries like the Russian Federation with genuine financial difficulties in fulfilling their treaty obligation to destroy chemical weapons will need to be assisted. In the biological weapons area the agreement reached at the resumed BWC Review Conference in 2002 augurs well for the prospects of national legislation implementing the BWC and for the eventual criminalization of the violation of the BWC under domestic laws. Several other areas will be explored in the three annual meetings that will take place before the next Review Conference and this is a healthy sign of a multilateral process at work.

The salvaging of the BWC Review Conference is itself an illustration of how multilateral disarmament diplomacy can be kept alive. It is no secret that creative diplomacy by the European Union helped to forge a compromise which the US tacitly accepted and the NAM acquiesced in out of a realization that it was the best result that could be obtained in the circumstances. We need more of these bridge-building exercises across political groups if multilateralism in disarmament is to remain robust and productive. Group solidarity is understandable but in circumstances where total failure is so self-evidently destructive of the multilateral process, individual diplomats with stature and credibility as well as individual countries with broad acceptance must activate themselves in the search for compromises. The approach that suggests that nothing can be accomplished until political circumstances are more propitious is essentially myopic and ultimately harmful to the cause of disarmament.

A long-term strategy that was identified in the UN Secretary-General's Advisory Board for Disarmament Matters was the need for disarmament and non-proliferation education to ensure an informed public opinion especially in the current context of indifference. This led to a General Assembly mandated expert study of the subject and a report with a number of many useful recommendations endorsed by the General Assembly in 2002. These recommendations are in the process of being implemented by the

United Nations but they require the combined commitment and resources of the entire global community for the results to be seen.

The Role of the Scientist

It is in this context that the role of the scientist in terms of the Russell-Einstein Manifesto assumes great importance. The urgent need for a code of ethics to govern scientists working in the defence sectors in all countries cannot be overemphasized. The inherent ambiguities in dual use technology are of course difficult and complex. Despite this or precisely because of this, a code of ethics and a system of mentoring younger scientists can help to ensure moral clarity where legal precision may be difficult to achieve. Research and Development programmes in the weapon industry have to depend on scientists. As long as the right to self defence remains guaranteed by Article 51 of the UN Charter and the provisions for the collective defence of international peace and security can be exercised by the Security Council under Chapter VII of the Charter we will have armies and we will have weapons which nations will seek to modernize. A weapon-free world is therefore a Utopian ideal which the scientist cannot expect any more than others. However all of us can legitimately expect a lower reliance on weapon based security given its obvious limitations in comparison to the more durable human security that sustainable human development can achieve through non-military means. We can demand that lower levels of arms be achieved to assure security. Thus the pressure from military-industrial complexes throughout the world for more resources for weapons development must be resisted by scientists. The latest Yearbook released by the prestigious Stockholm International Peace Research Institute (SIPRI) reveals that global military expenditure is running at \$128 per capita after the acceleration we witnessed globally in 2002 ostensibly because of 9/11. While the USA accounts for 43% of global military expenditure collectively USA, Japan, UK, France and China total 62% of what the world spends on arms. The statistics quoted for 2001 reveals interesting regional variations in military spending with the Middle East (6.3%), North America (3%) and Central and Eastern Europe (2.7%) above the global average of 2.3% while Latin America (1.3%), Africa (2.1%), Asia (1.6%) and Western Europe (1.9%). While political tensions undoubtedly contribute towards these figures scientists

engaged in R&D can play a decisive role in rejecting military solutions to political disputes. We shall never achieve the Millennium Development Goals of the United Nations at current levels of military expenditure.

Existing treaties like the NPT, CWC and BWC together with political commitments solemnly made in the final documents of conferences make it abundantly clear that all states are obliged to achieve the total elimination of WMD. We are thus faced with the threat of burgeoning conventional weapons and the possible development of new types of weapons including those based on new physical principles. Here the need for a code of ethics becomes vital for application across national boundaries. It will prohibit scientists from engaging in any activities that contravene existing treaties and conventions in the arms limitation and disarmament field. Where new weapons or refinements of existing weapon technologies are contemplated the principles of humanitarian law and the protection of civilians must be the guideline. National scientific bodies such as Academies of Sciences and international scientific organizations must take responsibility for harmonizing codes of ethics and for their implementation. If a complaint is filed against a scientist for violating the code of ethics an inquiry must be instituted and if the verdict is guilty the withdrawal of professional membership and recognition must follow. It is only by maintaining the highest standards that we can ensure that scientists do not allow their skills to be subverted or exploited. Where scientists, especially those in dictatorships, have been coerced, whistle-blowing should be encouraged within the code of ethics as part of our common responsibility to protect humanity. With the functioning of the International Criminal Court it would follow automatically that any scientist found guilty would automatically be struck off professional rolls and be disqualified from pursuing his or her scientific career.

Verification technology is an area where a great deal of good work has already been accomplished. The state of the art technology installed in Vienna and other parts of the world by the Provisional Technical Secretariat of the CTBT and IAEA's technical equipment and expertise in implementing safeguards agreements are some outstanding examples. More needs to be done in order to remain several steps ahead of violators of treaties and to detect clandestine programmes. Satellite imagery has been developed to a remarkable level of accuracy. Although national

intelligence agencies do not divulge their high resolution imagery even to the UN, commercially available imagery has enabled NGOs like the Federation of American Scientists and others to monitor disarmament related developments and inform the general public of their findings. Greater availability to the public of high resolution satellite imagery and improvements in the quality and the reading of this imagery will make the detection of clandestine programmes by both states and terrorist group more likely. It will also make for a better informed public at a time when civil liberties are being curtailed and transparency sacrificed in the campaign against terrorism. The benefits also include greater confidence in the verifiability of disarmament agreements and greater confidence that cheats do not get away with their bad faith actions. Other verification devices and aids could be invented and popularized as a confidence-building infrastructure to the web of treaties and conventions that restrain the unbridled pursuit of weapon development. Radar and early warning systems are also technological areas by which conflicts can be prevented. Their potential has to be exploited through the collective work of scientists. A Canadian proposal for a peacekeeping satellite—PAXSAT—remains unimplemented for lack of funds while billions of dollars are spent on new weapons. Scientists can be at the forefront of public campaigns demanding more resources for peaceful research to ensure a safer and better world.

Finally there is the task of education in the disarmament and proliferation area to which I have referred earlier. The dangers of the arms buildup and of proliferation can best be explained to younger generations by the scientific community in terms that are clear and irrefutable. It is an investment in our future. It is a responsibility they have to their fellow human beings. In the words of the Russell-Einstein Manifesto "Remember your humanity".

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Advancing Human Security: The Role of Technology and Politics

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REPORT OF THE SECRETARY GENERAL

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Paolo Cotta-Ramusino
Secretary General

Throughout its 46 years of existence, the main goal of Pugwash has been the elimination of all nuclear weapons and, more generally, of all weapons of mass destruction which have brought the risk of annihilation to mankind. Scientists (including those who worked on these instruments of destruction), policy makers, and military people, as well as those actively involved in supporting disarmament—people of different nationalities and political opinions—have been brought together over the years for the purpose of seeking ways of controlling and eliminating the most deadly weapons and promoting cooperation and peace. After the end of the Cold War, many of the problems related to nuclear weapons and WMD did change, but the weapons themselves and the relevant risks did not disappear. In the last period, the issues related to nuclear weapons and more generally to WMDs have in fact been at the core of many political initiatives, military interventions and planning, and decisions of various nature on the international scene, but unfortunately most of these actions and decisions were made in directions that many of us regret. The overall situation, as far as disarmament

and the elimination of WMDs are concerned, is far from reassuring—just as the status of conflicts and hostilities, particularly in regions where nuclear weapons or other WMDs are present, is also far from reassuring. Much of our activities of the last year has been developed in this very critical environment.

Nuclear weapons, nuclear disarmament and proliferation

Let us recall that the 2000 NPT review conference concluded with the approval of 13 “immediate” steps for systematic and progressive efforts to implement article 6 of the NPT, that mandates the nuclear weapons states “to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament.”

These steps included: entry into force of the Comprehensive Test Ban Treaty (CTBT); the banning of the production of fissile material; the unequivocal undertaking by nuclear weapons states to accomplish the total elimination of nuclear arsenals; the preservation and strengthening of the (now defunct) ABM treaty; the reduction of non-strategic warheads, the reduction of the operational status of nuclear weapons and increased transparency; the principle of

irreversibility applied to nuclear disarmament; diminishing the role of nuclear weapons in security policies; and the achievement and maintenance of a nuclear weapons-free world. Most of these steps have been dismissed since 2000.

These are difficult moments for the arms control regime:

- It has been shown that treaties such as the ABM can be disposed of when no longer needed;
- New treaties present a very weak idea of disarmament: the Moscow Treaty projects 1700–2200 strategic (only) warheads per party by 2012;
- There is little limitation to nuclear testing, since we do not have any foreseeable date for entry into force of CTBT;
- We do not have any instrument of verification for the BWC.

Moreover, there is a newly proclaimed utility of nuclear weapons:

- New (smaller) nuclear weapons are needed (the USA);
- In its National Strategy to combat WMD, the “US will continue to make clear that it reserves the right to respond with overwhelming force—including resorting to all its options—to the use of WMD against the US, its forces abroad, and its friends and allies”;

- The lack of progress in disarmament affects all nuclear power states: their arsenals remain unchanged. And these states continue to consider their nuclear arsenals as an essential instrument of their military (and not only military) policy.

The security concerns of non-nuclear states have also increased:

- There is no security guarantee for non-nuclear-weapon states and, in fact, there is even talk about possible preventive attacks against WMD assets before these weapons are used;
- We witnessed the instrumental use of the need to fight WMD as a justification for military intervention aimed at regime changing;
- We witnessed the weakening of international institutions, including those which should oversee the implementation of the NPT and the control of nuclear activities. The war on Iraq was based on the idea that international institutions could not be trusted.

There is the impression that those responsible for nuclear proliferation get away with it:

- Nuclear proliferation did take place significantly, and the consequences for the states involved were manageable. India and Pakistan acquired good-sized nuclear arsenals, and pressures against them (sanctions) did not last long. Israel of course gets away with its undeclared nuclear status due to its so-called exceptional situation;
- Even a comparison between the treatment reserved to countries that may work for nuclear weapons and

to Iraq, shows that being closer to nuclear capability does not necessarily imply being subject to a stronger pressure.

To quote the very candid statement by CIA Director George Tenet (February 2003):

We have entered a new world of proliferation.... This is taking place side by side with the continued weakening of the International non-proliferation consensus. Control regimes like the NPT are being battered by developments such as North Korea's withdrawal from the NPT and its open repudiation of other agreements. The example of new nuclear states that seem able to deter threats from more powerful states simply by brandishing nuclear weapons, will resonate deeply among other countries that want to enter the nuclear weapons club. Demand creates the market. The desire for nuclear weapons is on the upsurge..... The domino theory of the 21st century may well be nuclear.

The risk of nuclear war

The end of the Cold War certainly did significantly reduce the risk of nuclear conflicts. But this risk is far from being eliminated.

- The nuclear weapons of the two former antagonist superpowers are still targeted at each other, and a significant part of them are still kept on high-alert status, so that today we still have the spectre of nuclear war by mistake or miscalculation.
- New nuclear states are in situations where the risk of conventional conflict and nuclear escalation is significant. The relations between India

and Pakistan (both nuclear-armed) have several times brought both countries to the verge of conflict. There is high tension in North-East Asia, where a possible new nuclear actor is present. And the large Israeli nuclear arsenal is a continuous reminder that any conflict in the Middle East may very well become nuclear.

- There is an abundance of fissile material available worldwide, and its disposal is progressing slowly and with limited resources. There is still a very serious concern that some fissile material may be acquired by nuclear-proliferating countries or seized illegally by sub-national groups. If one were to have available a sufficient amount of fissile material, then building a rudimentary nuclear weapon for terrorist use would be a very easy task.

The war on Iraq

The war on Iraq was motivated in part by the claimed need to combat WMD. The activities of the international inspectors in the country were halted by the decision of the US to intervene militarily no matter what the result of the inspections. The US decision was based on what soon appeared to be false claims of Iraqi activities to acquire nuclear weapons, exaggerated claims about its CBW capabilities, and unproven connections with the international terrorists of Al-Qaeda.

Even though the government of Saddam Hussein will be hardly missed, the use of the motivation to combat WMD as a justification for a military intervention which is in reality otherwise motivated, is objectively



Paolo Cotta-Ramusino and Foreign Minister Bill Graham

weakening the international consensus to eradicate such weapons. If the elimination of WMD is used as a false excuse for a war, the credibility of the fight against WMD is put under strain.

Moreover, the war on Iraq highlighted other important problems. First, the dramatic situation in Iraq after the conquest of Baghdad has demonstrated up to now that there is a crucial difference between winning a war militarily and being able to put in motion all the necessary mechanisms to reconstruct a country, economically, politically and socially. The issue of reconstruction, of securing necessary international guarantees and contributions, and of implementing the necessary steps to democratize the country (hardly the semi-spontaneous phenomenon, with its domino effect on neighboring countries, that was promised in some pre-war fairy tales) will be issues that remain with us for a while.

Secondly, the war on Iraq exacer-

bated the already tense relations between the west and the Arab/Muslim world. Many Muslims feel that they are the target of an international campaign that depicts them as, de facto, the main source of international terrorism. The sentiment in many Muslim countries is that Muslims are on the losing/oppressed side in the international political arena. Accusations that Muslim countries harbor the goal of acquiring WMD is juxtaposed with the fact that the West and Israel openly possess such weapons and have no intention of giving them up.

Thirdly, the war on Iraq has brought to international public attention a basic question: is the will of one nation alone the basis for the new international order? And what is the role of existing international institutions? The controversy between unilateral vs. multilateral initiatives from the point of view of the only existing superpower may be one of a choice between two courses of

actions that need to be compared on the basis of actual results. But for other nations and peoples of the world, the alternative is between having the right to influence world affairs or being merely passive subjects. Moreover, it is particularly ironic when unilateral initiatives are imposed on the rest of the world with the proclaimed goal of spreading democracy.

Pugwash activities in the past year

Pugwash has been working for 46 years towards the goal of eliminating nuclear weapons and other WMD. For those 46 years Pugwash has been promoting dialogue between countries on opposite fronts, even when dialogue was most difficult. The end of the Cold War represented a dramatic change in that Russia and the US were no longer facing each other as adversaries. But other countries with smaller nuclear arsenals confront each other and, as always with nuclear weapons, there is the risk that there may be a shift from tensions and hostility to conventional conflict and to nuclear escalation (whether planned or inadvertent). This is the case with India and Pakistan, as mentioned before. Pugwash, which has eminent members from both India and Pakistan, has been very active during the last year in promoting analyses, offering suggestions for the resumption of the dialogue (at any level) in the Indian subcontinent, and questioning various aspects of nuclear policies and strategies that are of particular concern since they contribute to making nuclear confrontation more likely.. There are of course many difficult unresolved issues which are at the

core of the confrontation in the Indian subcontinent. The issue of Kashmir is one of the most difficult. Pugwash promoted in the past year and will do so in the future a frank discussion about Kashmir and other issues and will cooperate with other forces in the promotion of dialogue and stability in the subcontinent.

Another critical region is the Middle East, where nuclear weapons are also present and the risk of nuclear proliferation is significant. Having been involved in the region for a long time, Pugwash in the past year has been focused on the idea of promoting a stable dialogue on security aspects in the whole middle eastern area. This means not only Israeli and Palestinians, but the Arab and non-Arab countries of the Middle East. The Arab (Saudi) plan for the establishment of normal relations between countries of the Middle East was the subject of a specific workshop in Amman. The Arab plan is the first significant recognition by all the Arab states (with no exceptions) of the right of Israel to exist in peace inside the 1967 border, together with the Palestinian State. It is an important element in the future peace architecture of the Middle East that has not received enough attention and recognition. The goal of a nuclear weapons-free zone in the Middle East is also very important, both in general and for Pugwash. This can be attained only in a general framework of significantly reduced confrontation in the Middle East, and the Arab plan is an important tool for that goal.

Iran is a vitally important country in the Middle East and Pugwash has been active in promoting dialogue

between Iran and other countries (including western countries). In reference to allegations about plans for developing military nuclear capabilities in Iran, Pugwash welcomes the prospect that Iran may sign the IAEA additional protocol and is very much interested in working to promote this important development.

North Korea and Iran are countries that in different frameworks have been mentioned as countries with potential or actual nuclear programs. Avoiding a further spread of nuclear weapons is one of our fundamental objectives. But we need to understand the security needs of those countries that are thinking about acquiring a nuclear weapon capability. If we want to prevent nuclear proliferation, then a climate of cooperation needs to be established. Military actions to enforce counter-proliferation are neither effective nor just. Pugwash has a standing program for cooperation and dialogue in Northeast Asia that developed slowly in the last year for various reasons (SARS included). But we are very much committed to pushing forward this program in the coming year.

We have to acknowledge that the structure of arms control is in crisis. Helping to promote the arms control and disarmament process in all areas where this is more feasible and where there is hope of obtaining results is an important task to which Pugwash is fully committed. The idea of preventing the weaponization of space is one such endeavor. It is a goal where international cooperation can likely be achieved and which could attract the attention of the public opinion. Non-weaponizing space means to

prevent aggressive behavior in space, and to prevent dangers to the scientific and technological developments that require the use of space. It means to limit anti-satellite activities and the spread of ballistic missile defense. It means to avoid the spread of activities that are dangerous from many points of view, ranging from the risk of polluting space with increased debris to the risks associated to destabilizing current useful military activities.

Another important activity conducted by Pugwash over the years has been the continuous monitoring of arms control activities related to chemical and biological weapons. Two workshops are held annually on these issues which directly affect the work that is being done by the international institutions that deal with chemical and biological weapons, by providing analyses, proposals and by promoting dialogue.

Since 2001, Pugwash has been also active in seeking to promote understanding of the various aspects of the new evolution of terrorism. This Pugwash interest, I would say with particular emphasis, also extends to the consequences of the present antiterrorist campaign (the so called "war against terror"). We want to understand how much the present anti-terrorist policies affect human rights worldwide and the mutual understanding of cultures and peoples, and also how such policies in reality affect the evolution of terrorist activities. As an example, it is obvious that invading a country with the reported goal of eliminating the risk of terrorism, and then not effectively carrying on its reconstruction, is most likely to backfire in term of

terrorist activities.

One of the risks to which Pugwash has been very active in calling the attention of public opinion has been the risk associated with a possible terrorist use of WMD in general, and of nuclear weapons in particular. The Pugwash approach has focused on the fact that, in order to prevent nuclear terrorism, one immediate goal is to effectively control and dispose of all the fissile material that comes from the dismantling of nuclear weapons and from other military and civilian activities. If the nuclear powers want to help to reduce the risk of nuclear terrorism, they do not need to keep their nuclear arsenals intact, as they are doing now. Nuclear weapons are irrelevant to preventing nuclear terrorism. What matters is that no group (either a sub-national group or a critical nation) should have access to uncontrolled fissile material. In this sense Pugwash has been promoting various initiatives to accelerate the disposal of the most dangerous of all fissile materials, Highly Enriched Uranium (HEU). One of these initiatives has been supported by the Swedish Foreign Ministry, which organized a case study analyzing a possible European role in the disposal of excess Russian HEU.

One of the fundamental goals of Pugwash has been, since its foundation, the elimination of all nuclear weapons. In this moment we feel that Pugwash is one of the few voices that are still demanding nuclear disarmament and the full implementation of article 6 of the NPT. It is ineffective and unjust to demand that smaller countries give up their nuclear options when the more powerful

countries refuse to proceed in the same direction. To this end, Pugwash organized a workshop on the feasibility of No First Use, and participants discussed how declarations of No First Use can be part of a general awareness that nuclear weapons are totally ineffective in addressing concrete military and political problems and in fact serve no other role than in preventing others to use nuclear weapons first. This approach to nuclear weapons, which is in fact a time-honored approach, is very much at odds with present trends in which the idea is to build new types of (smaller) nuclear weapons for tactical purposes and to think of resuming nuclear testing.

The goal of eliminating nuclear weapons brings to mind the general problem of the social responsibility of scientists and the more general ethical problems which are associated with many types of scientific activity. Pugwash began as a group of (mainly) physicists who were concerned about their responsibility in bringing to life the risk of nuclear annihilation. Today, other risks have been brought to life by scientists in many areas, most obviously in biology and biotechnology. On these

issues Pugwash has started an initiative for dialogue in Paris which will continue in the future.

Summary

In conclusion, Pugwash is a small but very active community, which is spread over all the continents. We are truly an international NGO, with a variety of interests and a variety of approaches. We are very much aware that we were born as a community of natural scientists, concerned about their social responsibility, but we are happy that the evolution of the last 46 years has brought more and more political scientists, diplomats, policy makers, and military experts into the Pugwash community. Thus, our approaches are diverse and concern many different things, as the list of topics addressed in the last year (and before) shows. But we are very conscious that the risk of nuclear annihilation, the risk of war, and the need to prevent war with dialogue and the promotion of cooperation, are a common denominator for all the members of the Pugwash community. On this common denominator we built our activities in the last year and we will continue doing so for the foreseeable future.



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PUBLIC FORUM

The Nuclear Issue: Pugwash and the Bush Policies

Sir Joseph Rotblat
President Emeritus, Pugwash Conferences



This paper is mainly concerned with the nuclear issue, specifically with the dangers to the world that may arise from the nuclear policies of the George W. Bush Administration. But in order to put these

policies into a proper perspective, I have to start with observations on the general doctrines and strategies of this Administration.

I should declare, from the start, that I am strongly critical of the present US Administration in its conduct of world affairs. In the highly charged political climate of the recent months—largely related to the Iraq debacle—anyone criticizing the Bush Administration has immediately been branded as anti-American, and placed in the defensive position of having to begin with a statement that one is not anti-American.

So let me say this clearly: I am not anti-American. On the contrary, I submit that it is the policies of the current Administration that should be called anti-American, because—in my opinion—they do not represent the views of the majority of the American people. I am convinced that these policies would not have been pursued if Al Gore had won the election in 2000. You will remember that—even with the distraction of Ralph Nader—Al Gore had a majority in the national vote, and it was only through some questionable manoeuvres that he was deprived of the Presidency. It seems to me very unlikely that, had he been elected, Al Gore would have alienated so many to such an extent.

It is important to note that the current polarization of the world is largely the consequence of the Bush slogan:

“You are either with us or against us”. This was initially applied to the campaign against al-Qaeda, but it puts all those who do not fully agree with the Bush policies into the category of villains. There are many, perhaps a majority in the world, who are strongly against terrorists, and ready to join in actions against them, but are not happy with the Bush policies. These policies are seen by many outside the United States as aiming at establishing a US hegemony in the world, and treating international undertakings with contempt, to be adhered to only if they suit the interest of the United States.

What I find so repugnant about these policies is their blatant hypocrisy. The USA proclaims itself as the champion of democracy in the world, while actually imposing its will in a dictatorial manner. It is supposed to uphold the rules of law, yet violates legal commitments under international treaties. It castigates members of the United Nations for exercising their rights under existing rules but takes military action against a member state without the authority of the United Nations.

A central criticism of the United Nations made by the Bush team is that it is ineffective, a useless and enfeebled organ, incapable of taking decisive action. This sort of criticism has traditionally been leveled at democracies by totalitarian regimes. Long discussions and protracted negotiations are an inherent feature of a democratic system, in which the needs and aspirations of many groups or nations have to be reconciled in a peaceful manner. The Bush Administration has no truck with such approaches, even though it professes to champion democracy.

In my view, such policies are unacceptable in a civilized society because in the long run, they would spell the ruin of civilization.

The pursuit of these policies was evident in the campaign against Iraq. The stated justification was to disarm Iraq of weapons of mass destruction, but others see it pri-

marily as an attempt to increase the US influence in the Middle East. There is plenty of documentary evidence to support the thesis that the main reason for bringing down the Saddam Hussein regime in Iraq—and making similar threats against Syria and Iran—was to change the political configuration in the Middle East so as to give the United States political, economic and military control of that region.

The history of these endeavours, is now general knowledge, but I want to recall some salient points.

Even during the Cold War years, various right wing groups in the United States—who have become known as neo-conservatives—advocated strong aggressive foreign policies. These groups had considerable sway during the Reagan Presidency, but it was after the end of the Cold War—and the outcome of the first Gulf War, which they saw as having left the business unfinished—that they became really active. In the spring of 1992 a document was produced, called *Defense Policy Guidance*, which was stunning in the clarity and ambition of its vision of a new US foreign and military policy. It called for US dominance by preventing the rise of any potentially hostile power, and for a policy of pre-emptive military action against states suspected of developing weapons of mass destruction. The document was written by two relatively unknown functionaries in the Pentagon's policy department. They were Paul Wolfowitz and Lewis Libby; their boss at the time was Dick Cheney, then Secretary for Defense. All three are now prominent members of the Bush Administration.

In July 1996, the Institute for Advanced Strategic and Political Studies issued a document entitled “*A Clean Break: a New Strategy for Securing the Realm*”. The head of the Institute was Richard Perle—for years known as the Prince of Darkness, for his extreme views, and strong support of the Israel lobby. The document called on the then Israeli Prime Minister, Benjamin Netanyahu, to adopt a radical change in policy, starting with a repudiation of the Oslo Accords, and to be followed by a campaign to eliminate Saddam Hussein and destabilize the governments of Syria, Lebanon, Saudi Arabia, and Iran.

In February 1998, Richard Perle wrote an Open Letter to President Clinton, demanding a full-scale drive for a regime change in Baghdad. It had 25 signatories, including many who are now in the Bush Administration, e.g.: Donald Rumsfeld—now Defense Secretary, and Paul Wolfowitz—now Deputy Defense Secretary.

The al-Qaeda attack of September 11 provided the opportunity for these policies to be put into practice. The case for a *Pax Americana* had been set out, and its first stage was implemented in the war against Iraq.

The prolonged squabbles over UN Resolutions and inspections, aiming at giving legitimacy to the war, seem to have been just a charade, intended to create the impression that it was not the USA alone but a coalition that was involved in the anti-Iraq campaign. The decision to overthrow the Saddam Hussein regime having been taken much earlier, it was only the time for its implementation that had to be chosen. This was probably dictated not by the outcome of the Hans Blix inspections, but by the need to assemble the necessary military strength.

The military strength of the USA is truly awesome. Since the end of the Cold War, the Americans have built up an enormous military potential. Making use of the latest advances in science and the achievements in technology—and supported by budgets of astronomical dimensions—the United States has become the greatest military power that ever existed; nearly exceeding in sophistication all other nations combined. Against this might, the Iraqi army, with antiquated tanks and no air-power to provide cover, did not stand a chance.

Of course, the fact that Saddam Hussein's regime was rotten, and was kept from falling apart entirely by the terror imposed by a small number of thugs, contributed to its rapid demise. The claim by Rumsfeld *et al* that Iraq posed a threat to other nations, including the United States, was just laughable.

Indeed, the official reason for the military attack on Iraq—the removal of weapons of mass destruction—has proven to be completely indefensible, since no such weapons have so far been found, despite the intense search carried out by large groups of experts appointed by the USA. As time goes on, and the WMDs are not found, there will be an attempt to play down the importance of finding them, but this will not alter the fact that the war was started on false premises.

All the same, it would be hypocritical for those of us who were against the war not to rejoice over the downfall of a tyrannical regime, and not to admit that this would not have come about so quickly without military intervention. But the price we paid for this is far too high: it has reinstated in world affairs the old maxim that *the ends justify the means*.

The events of the recent months are a severe setback to those who believe that morality and adherence to the rules of law should be our guiding principles. For the time being, the rule seems to be: *might is right*, and in submitting to this rule, the governments of many countries may be driven to adopt a pragmatic policy; they may be forced to acknowledge that there is now a single superpower; they may feel obliged to accept the role of the United States as the world's policeman.

But this cannot be a permanent solution. Even if the Americans were less arrogant in pursuing that role than they are now, a system with a built-in inequality is bound to be unstable. It is bound to create resentment, a resentment that will find expression in various ways, including an increase in international terrorism. This in turn will force the "policemen" to take countermeasures, which will make the inequality even more acute. Democracy in the world, as we know it today, would be ended.

This is a possible scenario, but it need not happen. My main hope is that the opposition to it will come from within the United States itself. At present, Bush is very popular and carries a majority of public opinion: this is the usual wave of patriotism which comes with a military victory, but it is already decreasing significantly. I believe that the strong anti-war demonstrations that we saw earlier are a true reflection of the views of the majority of the American people. Somehow, I do not see the American people accepting the role assigned to them by the clique that has hijacked the Administration. Public opinion is bound to turn when the dangers associated with the current policies become apparent. My main worry is that in the meantime these dangers may lead to catastrophic results. The greatest dangers derive from the nuclear doctrines pursued by the Bush Administration.

These new doctrines have been comprehensively analysed by Steven Miller in a paper, "Skepticism Triumphant", an updated version of a presentation he made at the Pugwash conference in Agra last year. He contrasts the views of the "Skeptics", by which he means the Bush Administration, against those of the arms controllers. His conclusion is that *arms control is dead*.

This conclusion is probably correct, but it does not follow from this that we have to accept fatalistically the new doctrines. Arms control and unilateral policies are not the only options. In his paper, Steven Miller was mainly concerned with contrasting these two, and therefore he left

out from consideration another alternative to arms control, namely, nuclear disarmament.

In Pugwash we faced, from the beginning, the dilemma of the two approaches: arms control versus disarmament. A few years ago we spent much time, in the Council and in special workshops, discussing the pros and cons of the two approaches.

This dispute has now been brought to an end by the entry onto the scene of the new approach. Arms control is now dead. But, as discussed earlier, the policy of the Bush Administration, envisaging US world dominance, is unacceptable. I submit that this leaves only one option for Pugwash: to pursue nuclear disarmament.

The elimination of nuclear weapons has always been the goal of Pugwash, following the call in the Russell-Einstein Manifesto. We have pursued this goal for moral reasons, because ethical issues have always played a major role in Pugwash: any use of nuclear weapons has been seen as immoral. But we have also seen in our goals a basic purpose: survival. Any use of nuclear weapons would carry the danger of escalation and a threat to our continued existence.

But the use of nuclear weapons is explicitly contemplated in the policies of the Bush Administration.

These policies have been promulgated in a number of statements, most of them made during the last year. The following documents are of particular importance:

- Nuclear Posture Review. January, 2002
- The National Security Strategy of the United States of America. September, 2002
- National Strategy to Combat Weapons of Mass Destruction. December 2002
- National Policy on Ballistic Missile Defense. May 2003

These policies seem to have two aims: one, a defensive strategy to make the USA invulnerable to an attack from outside; the second, an offensive strategy, to threaten an unfriendly regime with military action, including the use of nuclear weapons, if it attempts to acquire WMDs for itself.

For the first purpose, the decision was made to give a high priority to missile defence. As a first step, the USA abrogated the Anti-Ballistic Missile Treaty, which had been previously considered the bedrock of the arms control system. A hugely increased budget has been provided for a missile defence project, which is said to be essential

in a world of potential threats from weapons of mass destruction.

But it is in the offensive aspect that the biggest changes have occurred. The new Nuclear Posture Review spells out a strategy which incorporates nuclear capability into conventional war planning. The previous doctrine of deterrence, by which the actual use of nuclear weapons was seen as a last resort, when everything else had failed, has been thrown overboard. In the new doctrine, nuclear weapons have become a standard part of military strategy; they would be used in a conflict just like any other explosives. This represents a major shift in the whole rationale for nuclear weapons.

The main reason for this change seems to be the fear that states seen as unfriendly to the USA may acquire weapons of mass destruction: *"We will not permit the world's most dangerous regimes and terrorists to threaten us with the world's most destructive weapons"*.

In this pursuit, the Bush Administration is prepared to go very far, including pre-emptive strikes: *"We must be prepared to stop rogue states and their terrorist clients before they are able to threaten or use weapons of mass destruction against the United States and our allies and friends."* And it goes on: *"To forestall or prevent such hostile acts by our adversaries, the United States will, if necessary, act pre-emptively."*

The implementation of this policy has already begun. The United States is designing a new nuclear warhead of low yield, but with a shape that would give it a very high penetrating power into concrete, the *"robust nuclear earth penetrator"*. It is intended to destroy bunkers with thick concrete walls in which weapons of mass destruction may be stored, or enemy leaders may seek shelter.

To enable this project to go ahead the US Senate has already decided to rescind the long-standing prohibition on the development of low yield nuclear weapons. Other types of warheads are also contemplated.

The new weapons will have to be tested. At present there is a treaty prohibiting the testing of nuclear weapons (except in sub-critical assemblies), the Comprehensive Test Ban Treaty, which the United States has signed but not ratified. Given the contempt of the Bush Administration for international treaties, little excuse would be needed to authorize the testing of the new weapon. Indeed, the need to resume testing is now openly advocated.

If the USA resumed testing, this would be a signal to

other nuclear weapon states to do the same. China would be almost certain to resume testing. After the US decision to develop ballistic missile defences, China feels vulnerable, and is likely to attempt to reduce its vulnerability by modernizing and enlarging its nuclear arsenal. An opinion is building up that: *"China should realize that the present minimum nuclear arsenal is inadequate to meet the new challenges, and therefore should greatly expand its nuclear force to the extent that it can be actually used in different scenarios"*. At present this is a minority view, but it may become significant should the USA resume testing. Other states with nuclear weapons, such as India or Pakistan, might use the window of opportunity opened by the USA to update their arsenals. The danger of a new nuclear arms race is real.

Another worry about the development of the new bomb is that it would blur the distinction between nuclear and conventional weapons. The chief characteristic of a nuclear weapon is its enormous destructive power, unique even in comparison with current chemical or biological weaponry, also designated as weapons of mass destruction. This has resulted in a taboo on the use of nuclear weapons in combat, a taboo that has held out since Nagasaki. But if at one end of the spectrum a nuclear bomb can be manufactured which does not differ quantitatively from ordinary explosives, then the qualitative difference will also disappear; the nuclear threshold will be crossed, and nuclear weapons will gradually come to be seen as a tool of war, even though the danger they present to the existence of the human race will remain.

For the USA, the distinction between nuclear and conventional weapons has already been eroded, as was made clear in the Nuclear Posture Review, but the situation has become even more threatening with the additional disposition to act pre-emptively.

The danger of this policy can hardly be over-emphasized. If the militarily mightiest country declares its readiness to carry out a pre-emptive use of nuclear weapons, others may soon follow. The Kashmir crisis, in May last year, is a stark warning of the reality of the nuclear peril.

India's declared policy is not to be the first to use nuclear weapons. But if the United States—whose nuclear policies are largely followed by India—makes a pre-emptive nuclear use part of its doctrine, this would give India the legitimacy to similarly threaten pre-emptive action against Pakistan. George Fernandes, India's Minister for

Defence, said recently: India had *“a much better case to go for pre-emptive action against Pakistan than the United States has in Iraq.”* More likely perhaps is that Pakistan would carry this out first.

Taiwan presents another potential scenario for a pre-emptive nuclear strike by the United States. Should the Taiwan authorities decide to declare independence, this would inevitably result in an attempted military invasion by mainland China. The USA, which is committed to the defence of Taiwan, may then opt for a pre-emptive strike.

And we still have the problem of North Korea, described by Bush as one of the “axis of evil”. Under the Bush dictum not to allow the possession of weapons of mass destruction by any state considered to be hostile, North Korea will be called upon to close down all work on nuclear weapons. It is by no means certain that Kim Jong Il will submit to these demands, and a critical situation may arise in that part of the world.

A major worry in this respect are developments in Japan. So far Japan has been kept out of the nuclear weapons club by Article 9 of its constitution:

“...the Japanese people forever renounce...the threat or use of force as means of settling international disputes.”

However, partly at the urging of the USA, strong tendencies are now appearing—with the backing of the Prime Minister, Junichiro Koizumi—to revise the constitution so as to make it legal for Japan to become a nuclear-weapon state.

Altogether, the aggressive policy of the United States, under the Bush Administration, has created a precarious situation in world affairs, with a greatly increased danger of nuclear weapons being used in combat.

Moreover, if the use of nuclear weapons is made legal, it would preclude passing of laws to prevent the development of new types of weapons, with even greater destructive potential than current WMDs—a truly horrifying prospect. Sir Martin Rees, the British Astronomer Royal, gives civilization a 50/50 chance of surviving this century. Others believe that this is optimistic.

What should be the Pugwash stand on this matter? Does the new situation call for a corresponding change in our activities?

Let me first state that I fully support the efforts made by the Secretary-General towards the resolution of local conflicts, particularly in the Middle East. His success in bringing together personalities from opposing camps

encourages us to continue these activities; they may prevent a regional crisis from getting out of control.

But it is the central issue that I am concerned about. A year ago, in La Jolla, we have adopted the Goals of Pugwash for the next five years. The relevant document states: *“Pugwash is strongly committed to the goal of abolishing all nuclear weapons. It is imperative that Pugwash constantly remind the international community of the immorality, illegality, and peril inherent in nuclear weapons, and to propose concrete steps towards their elimination.”* In the second year of the Quinquennium it is high time to take these steps.

Any attempt to achieve our goals by persuading the Bush Administration to change its policies through logical persuasion, or by appealing to moral instincts, would be hopeless and a complete waste of time. But it may not be a waste of time if such an appeal is made to the general public. As I said earlier, hope lies in a change of public opinion, particularly in the United States, to rise in opposition to the current policies, and throw them out in the process usually employed in democratic countries, namely, in free elections. Therefore, my suggestion is that the Pugwash effort should be towards an acceleration of that process in a campaign to influence public opinion, a campaign based on principles of morality and equity.

Immorality in the use of nuclear weapons is taken for granted, but this aspect is very seldom raised when calling for nuclear disarmament. We are told that a campaign based on moral principles is a non-starter, and we are afraid of appearing naïve, and divorced from reality. I see in the use of this argument evidence that we have allowed ethical considerations to be ignored for far too long. We are accused of not being realistic, when what we are trying to do is to prevent real dangers, the dangers that would result from the current policies of the Bush Administration.

The public at large is ignorant about these dangers and we urgently need a campaign of public education.

The other basic principle is adherence to international law. It is a *sine qua non* of a civilized society that nations fulfil their legal obligations and respect international law. World peace cannot be achieved without adherence to international treaties.

There is much deliberate obfuscation and brainwashing in this respect. Let me illustrate this with the example which happens to be at the heart of the problem, the problem of the Non-Proliferation Treaty (NPT).

Pugwash was very much involved in this treaty, in its earliest years, when we saw it as an important measure towards the elimination of nuclear weapons. Let me recall the salient facts about the NPT, to which 98 percent of nations have subscribed. In accordance with the treaty, all non-nuclear states that signed it undertook not to acquire nuclear weapons in any way. At the same time, the five states which officially possessed those weapons—by virtue of the fact that they had tested them by a certain date—undertook to get rid of theirs. The relevant Article VI reads: *“Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.”*

By signing and ratifying the NPT, the nuclear member states are legally committed to nuclear disarmament. The hawks in those states, in an attempt to retain nuclear weapons, utilized an ambiguity in Article VI, which makes it appear that nuclear disarmament is linked with the achievement of general and complete disarmament. But the NPT Review Conference—an official part of the implementation of the NPT—at its session in 2000, removed this ambiguity in a statement issued by all five nuclear weapons states. It contains the following:

“...an unequivocal undertaking by the nuclear-weapon states to accomplish the total elimination of their nuclear arsenals leading to nuclear disarmament to which all States Parties are committed under Article VI.”

This makes the situation perfectly clear. The Bush policy, which is based on the continued existence (and use) of nuclear weapons, is in direct contradiction to the legally binding NPT.

But the Bush Administration seems to have managed to convince the public that only a part of the NPT, the part that applies to the non-nuclear states, is valid, and that therefore states which violate it—as Iran now stands accused of doing—must be punished for the transgression. The part concerning the obligation of the nuclear states is deliberately being obliterated. Let me cite two items which recently appeared in British national newspapers:

“At a meeting of the IAEA today, the US will urge it to declare Tehran in breach of the Nuclear Non-Proliferation Treaty. The treaty seeks to confine nuclear weapons to Russia, Britain, France, China and America.”

I have emphasized the second sentence because it displays the complete reversal of the purpose of the NPT.

The other newspaper—none other than *The Times*—reports similarly:

“It [the NPT] was established to stop the spread of nuclear weapons beyond the original declared nuclear powers of the US, China, Russia, the UK and France.”

There is no mention of the obligation of the latter.

We are being told all the time how dangerous nuclear weapons are and that they must not be allowed to fall into the hands of undesirable elements or rogue regimes:

“Weapons of mass destruction ... nuclear, biological, and chemical—in the possession of hostile states and terrorists, represent one of the greatest security challenges facing the United States.”

What we are *not* being told is that these weapons are just as dangerous in the possession of friendly nations. We are *not* being reminded that—with the realization of these dangers—even the United States has undertaken to get rid of its own nuclear arsenal. We are facing here a basic issue in which the ethical and legal aspects are intertwined. The use of nuclear weapons is seen by the great majority of people in the world as immoral, due to their indiscriminate nature and unprecedented destructive power. Their possession—and therefore likely use—is thus equally unacceptable, whether by “rogue” or benevolent regimes.

The elimination of nuclear weapons has been the declared aim of the United Nations from the beginning, and resolutions to this effect are passed, year after year, by large majorities of the General Assembly. These resolutions are ignored by the nuclear weapon states, as are all attempts to discuss the issue by the organ set up for this purpose, the Conference on Disarmament in Geneva.

There is a need to keep hammering home the point that America’s stand on the NPT issue is iniquitous. It has signed and ratified an international treaty which commits it to get rid of nuclear weapons, yet it is pursuing a policy which demands the indefinite retention of these weapons.

We have to keep on highlighting the fundamental inconsistency in the US policies. The USA must make a choice: if it wants to keep nuclear weapons, then it should withdraw from the NPT (which would probably result in a massive increase in the number of nuclear weapon states). Otherwise, it must abide by the terms of the NPT and get rid of its nuclear arsenals. *Tertium non datur*. There is no third way.

I believe that a campaign to educate and influence public opinion, centered on the issue of the NPT, would stand a good chance of being successful.

The task of influencing public opinion is far too big for an organization like Pugwash to undertake by itself. Collaboration with other organizations would be essential. This would go against our traditional *modus vivendi*; Pugwash has often been accused—perhaps justifiably—of being an exclusive club. But even if our mode of work has been justified in the past, I believe that the time has come to open up. I am not advocating that Pugwash should become a mass movement; what I am suggesting is that we should be more willing to collaborate with other organizations in the sense of spearheading a large effort to provide information to the general public. Pugwash is a movement of scientists, but the job of the scientist is not only to do original research; education is an essential element of it. And this is in essence what I propose.

An initiative in this direction has already been started by the British Pugwash Group. In setting up a “*Nuclear Weapons Awareness Project*”, the British Pugwash Group is collaborating with about a dozen other British organizations, ranging from BASIC (the British American Security Information Council) to MEDACT (Medical Action), from CND to Greenpeace. An account of this Project is presented by John Finney in paper submitted to this Conference. I suggest that the Pugwash Council should take it up and find ways to implement it on an international scale.

Let me now conclude with some simple observations of a more general nature, but relevant to the problems I have raised in this paper.

I believe in the inherent goodness of Man. What would be the point of keeping the human species if this were not true! But then our task must be to ensure that this belief gains general acceptance.

We still conduct world affairs on the outdated principle that our survival demands being militarily strong. This is a remnant of our early history, when Man had to resort to violence in order to survive or to ensure continuation of the species. It completely ignores the radical changes that have occurred as a result of the advances in science and technology, changes which make such a stand no longer necessary. If equitably distributed, our resources could be sufficient to meet the basic needs of the world population, despite its huge increase.

Moreover, thanks largely to the fantastic progress in technology, our world is becoming more and more interdependent, more and more transparent, more and more interactive. Inherent in these developments is a set of agreements, ranging from confidence-building measures to formal international treaties; from protection of the environment to the clearance of mine fields; from Interpol to the International Criminal Court; from ensuring intellectual property rights to the Declaration of Human Rights. Respect for, and strict adherence to, the terms of international agreements are at the basis of a civilized society. Without this, anarchy and terrorism would reign, the very perils President Bush is allegedly committed to eradicate. While he intends to tackle this issue by military means, we must strive to achieve it by peaceful means. While the Bush Administration plans to act unilaterally, we have to ensure that world security is entrusted to the United Nations, the institution set up for this purpose. And we must link our respect for the law with strong moral principles.

Many of you are professional people, trained to look at problems in a detached, realistic, non-sentimental approach. But we are all, primarily, human beings, anxious to provide security for our nearest and dearest, and peace for fellow citizens of our nation and the world. We want to see a world in which relations between people and between nations are based on compassion, not greed; on generosity, not jealousy; on persuasion, not force; on equity, not oppression.

These are simple, some will say romantic, sentiments, but they are also realistic necessities. In a world armed with weapons of mass destruction, the use of which might bring the whole of civilization to an end, we cannot afford a polarized community, with its inherent threat of military confrontations. In this technological age, a global, equitable community, to which we all belong as world citizens, has become a vital necessity.

Sir Joseph Rotblat is co-recipient, with the Pugwash Conferences, of the 1995 Nobel Peace Prize. A signatory of the Russell-Einstein Manifesto in 1955 and one of the founders of the Pugwash Conferences, he attended the first meeting in Pugwash, Nova Scotia in July 1957, and later served as the organization's President.

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SELECT PAPERS

UN Peace Monitoring: An Emerging Global Watch?

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Introduction: “An Eye That Does Not Slumber”

The League of Nations ... should be the eye of the nations to keep watch upon the common interest, an eye that does not slumber, an eye that is everywhere watchful and attentive.

—US President Woodrow Wilson,
Paris, 25 January 1919

President Wilson articulated this aspiration for a global watch at the very dawn of international organization for peace, when the nations of the world were recovering from the throes of the First World War. The national leaders who had gathered in Paris in 1919 to negotiate a peace were only partly committed to the idea of a new system of international rules and collective action. Nonetheless they created the world's first international organization for peace, the League of Nations. Though the League was a important step forward for international relations, it never became the “everywhere watchful and attentive eye” that Wilson envisioned. Its investigative bodies proved slow and cumbersome; its procedures for dispatching missions rudimentary and subject to veto by member states, and its Secretary-Gen-

eral relatively powerless to monitor situations of conflict. Still it was a bold experiment in international organization that proved extremely useful in the design of its successor.

The advent of the United Nations in 1945, at the end of the Second World War, was a major step in international organization. The UN began dispatching increasingly ambitious missions to the field, with greater frequency and more functions than did the League. Its many field operations, offices and missions have served as the organization's “eyes and ears” in conflict areas. The UN Charter empowered the Secretary-General to bring concerns directly to the attention of the Security Council, a role that went well beyond the role specified in the League Covenant. The Secretary-General has, over time, become not only a vital “clearinghouse” of information from nations on the state of the world but also an important monitor of the world's conflict situations through his own representatives in the field. True, during the Cold War, the Communist world, led by a veto-wielding Soviet Union determined to maintain secrecy behind an iron curtain, held the UN back from much investiga-

tion and action, but the organization still gained a great deal of experience in fact-finding and peacekeeping operations. With the end of the Cold War another “evolutionary step” was taken.

The United Nations now conducts monitoring on an unprecedented scale and in new fields, covering an ever-growing range of security concerns for both nations and individuals. In addition to verifying peace agreements and documenting human rights abuses, the organization has been monitoring elections, tracking arms shipments, identifying sanctions busters, overseeing military and police forces, inspecting for weapons of mass destruction, exposing terrorists, warning of incipient crises, and gathering evidence for international criminal tribunals.

It is appropriate that President Woodrow Wilson, the League's principal founder who set out the initial plan for international organization, should have given voice to such a far-reaching vision for worldwide monitoring. The United Nations, as we shall see, is moving towards a global watch to fulfill its growing realm of responsibility. The UN is now the world's chief information-gathering instrument for actual or potential threats to the peace. From the halting baby steps of the League, to the slow march of the UN during the Cold War, the world organization now

finds itself in a fast run as it tries to keep up with world events that affect peace and security. With the end of the Cold War, the United Nations began monitoring peace and conflict in ways that would have surprised and pleased its originators, Wilson included. A decade and half after the fall of the Berlin Wall and the bipolar world that it symbolized, it is worthwhile to take stock of this progress.

Expanded Information-Gathering

The new and expanded monitoring activities of the United Nations in various countries make for a long and impressive list, including: tracking the distribution of humanitarian aid in combat zones; supervising the disarmament and demobilization of ex-combatants; monitoring elections; monitoring and training police and military forces during reform processes; following domestic court proceedings to verify that they are conducted with due process; following and encouraging the growth of civil society; patrolling the borders of states to prevent spill over from aggressive neighbours; determining responsibility for the initiation of wars; delineating borders between and within states; reviewing the implementation of arms control treaties, and many other novel activities.

In addition to verifying and confirming positive, peace-promoting activities, the UN must also carry out monitoring to detect a host of illegal or negative activities: observing attacks and the movements of fighters in combat zones; searching intrusively for hidden weapons, including small arms, bio-weapons and nuclear bomb-making materials; tracking

planes in no-fly zones or trespassing into foreign airspace; uncovering clandestine arms shipments through the cascade of arms brokers; catching sanctions busters, especially groups selling illegal commodities that fuel wars (e.g., “blood diamonds”); revealing secret bank accounts and exposing front companies of organized crime and terrorist groups; identifying forged documents that aid the illegal movement of people and arms across borders; determining if national secret agents have violated international laws; exhuming the bodies of persons killed by paramilitary groups; identifying deliberate attacks against civilian targets; gathering evidence for war-crimes trials; uncovering assassination plots before they hatch and warning of impending violence.

This tremendous expansion of UN monitoring tasks is paralleled by the creation of a host of new UN bodies, offices and operations with monitoring mandates. In peacekeeping, where international military and civilian personnel are deployed to conflict areas to help keep or create peace, the number of operations saw a tenfold increase in the 1990s compared to any previous decade. The thirty-five new operations in the one decade is double the number created in the previous 45 years of the organization. Monitoring is a principal function in all peacekeeping operations, and in most of them (observer missions), monitoring is *the* principal function. While there are definite limits to information-gathering or “intelligence” activities in peacekeeping, the 1990s saw an expansion in the use of overhead reconnaissance, radio message interception, and tech-

nological surveillance (e.g., using night-vision and radar), as well as more controversial activities such as deploying peacekeepers out of uniform (briefly) and employing paid informants from the local population.²

The 1990s also witnessed the creation of over a dozen missions of a new type, called “political and peace-building missions,” deployed to the field to monitor and assist with physical reconstruction and social reconciliation in countries coming out of war and even to prevent conflicts in the first place.³ The Special Representatives of the Secretary-General (SRSGs), who work in trouble areas or on special issues and who are often in charge of peacekeeping operations, currently number over thirty, more than at any other time.

In the human rights field, the Special Rapporteurs who report to the UN’s Human Rights Commission on specific countries or themes (types of rights violations) have multiplied, going from six in the 1980s to 17 in the 1990s. In the first two years of the new millennium alone, five new posts of this type were added. In addition, the new position of High Commissioner for Human Rights (UNHCHR), heading an office of the same name, was created in 1993. UN-sponsored Truth Commissions (or similarly named bodies) saw their advent in the 1990s, first in Central America, then Africa and Asia. In Guatemala, for instance, a “Historical Clarification Commission” was created in 1994 on the principle that the Guatemalan people had the “right to know the truth” concerning acts of political violence and violations of human rights in their country

for some thirty years. This was complemented by an ongoing mission to monitor human rights using in-country fact-finding teams.

Sanctions committees, with responsibilities to monitor the implementation of specific sanctions imposed by the Security Council, have also proliferated. Only two were established prior to 1990 (for sanctions against Rhodesia and South Africa), while ten were created in the 1990s and two have already been established in the first two years of the new millennium. These bodies are making increased use of expert panels and special monitoring mechanisms, which have broken new ground in the realm of international investigation. The expert panels have published detailed documentary evidence to identify and then “name and shame” individuals, organizations and governments (including heads of state) caught violating Security Council sanctions or not doing enough to catch sanctions-busters (or terrorists). In addition to catching sanctions-busters, the UN has tried on numerous occasions to assess the impact of sanctions to determine any unwanted effects that sanctions may create, especially affecting innocent citizens.

Similarly, in the disarmament field, monitoring and inspection agencies have flourished in recent years. For decades the only agency in the UN system conducting on-site inspections was the International Atomic Energy Agency (IAEA), headquartered in Vienna. This “nuclear watchdog” has been sending inspectors to declared nuclear facilities in about 70 countries to verify that nuclear material has not been diverted for unlawful or prohibited



Sen. Douglas Roche, Sen. Landon Pearson, Geoffrey Pearson, and Walter Dorn

purposes, in particular to produce nuclear weapons. In the 1990s, several new international verification bodies for arms control were established. A sophisticated system for the detection of nuclear tests in all environments (underwater, underground and above ground) was developed and tested by the preparatory Comprehensive Test Ban Treaty Organization (CTBTO). It employs an array of advanced seismic, hydroacoustic, infrasound and radionuclide technologies at stations around the globe which feed information back to headquarters at the Vienna International Centre.

UN investigations of chemical weapons use were first carried out in 1984 in Iran and Iraq by teams sent out by the Secretary-General, providing conclusive evidence that Iraq had used chemical weapons extensively in its war with Iran, in violation of its treaty (Geneva Protocol) obligations. The Organization for the Prohibition of Chemical Weapons (OPCW), established in The Hague in 1996 as part of the UN system, conducts hundreds of inspections each year to verify compliance with a comprehensive

ban contained in the Chemical Weapons Convention. Under its “challenge inspection” procedure, the OPCW is authorized to carry out inspections on an “any time, any site” basis upon request of a party. The 1972 Biological Weapons Convention, covering the third category of weapons of mass destruction, has no similar inspection system, though most states are in favour of finalizing a verification protocol and instituting a global monitoring and confidence-building system.

Under the 1997 Anti-Personnel Mines Treaty, the UN Secretary-General is responsible for organizing fact-finding missions, upon request, to investigate allegations of non-compliance with the treaty. Also, the Secretary-General receives annual reports from parties on the measures they have taken to implement the treaty, including the locations and quantities of any and all mines.⁴ Instead of creating a new and costly organization to administer the treaty and perform inspections, civil society was entrusted with the task of monitoring implementation of the ban. The Landmine Monitor, created by the

International Campaign to Ban Landmines (ICBL), is a network of experts and activists who analyse reports submitted by nations to the UN and compare them with other data gathered in the field. The annual report, *Landmine Monitor*, provides extensive new information with frank and objective assessments of national compliance. This is a good demonstration of how civil society can be freer to make accusations of non-compliance than governmental organizations and can work well with progressive governments and the UN to uphold a treaty. A similar partnership is developing around the small arms issue.

For decades, the UN has been the clearing-house for arms control reports sent to it by governments, for instance, in accordance with the 1968 Outer Space Treaty and the 1972 Biological Weapons Convention (and its review conference declarations). At the request of the General Assembly, the Secretary-General has also established voluntary registers of military expenditures (1980) and of conventional arms (1992). For the latter, there is a surprisingly high number of submissions, typically 80-90 states reporting annually on their possession of conventional weapons in seven major categories: battle tanks, armoured vehicles, large calibre artillery systems, combat aircraft, attack helicopters, warships, missiles and missile launchers. Small arms are not included, but are the subject of a number of important UN and NGO studies. There are international attempts to create a UN register for small arms as well.

This expansion of international monitoring has demonstrated that, as

more responsibilities are given to the UN, new precedents are set, new lessons are learned and new practices are put in place. Certainly there have been set-backs and misadventures (some of them instructive), but the enormous growth of international organization, from the League to the post-Cold War UN is indisputable. Still, many could correctly point out that the UN remains far from the lofty ideals that guide it.

While the evolution applies primarily to information gathering, to a lesser extent a growth has taken place in information analysis and dissemination.⁵

Information Dissemination

Gathering information on this wide range of targets and situations, though an enormous challenge, is only half the battle for the UN. The organization then needs to analyse the information and then disseminate the conclusions, either in private meetings, at informal or formal meetings of bodies like the Security Council, or at official or public meetings, including the daily press conferences of the spokesman of the Secretary-General. The UN has become a major centre for information dissemination crucial to the world's well being. The UN and its agencies provide us with many of the statistics that paint a sobering picture of our troubled world.

From various parts of the UN system, we learn about conflicts that are raging around the world, some already making the front pages of newspapers, others in long-ignored parts of the world. The annual Report of the Secretary-General usually provides a survey and analysis of

conflicts that are dealt with by the UN. Other UN agencies and offices provide telling details about the tremendous human toll of modern conflict.

For instance, UNICEF tells us that in the last decade of the 20th century, 2 million children were killed, 6 million injured or permanently disabled and 12 million left homeless because of conflict. In addition, "conflict has orphaned or separated more than 1 million children from their families states", states UNICEF's *State of the World's Children* report for 2002.⁶ Even more tragically, an estimated 300,000 children were forced or induced into combat in 2001.

Yet another UN agency, the United Nations High Commissioner for Refugees (UNHCR), tells us that there are an estimated 35 million refugees and internally displaced people (IDP) in the world⁷, about one for every 160 persons on earth. About 80 per cent are women and children, fleeing conflict or persecution. The number of people assisted by UNHCR has been about 21-22 million annually in the years 1998-2001.⁸ This figure includes 12 million refugees (55%), 0.9 million asylum seekers (4%), 0.8 million returned refugees (4%), 6 million internally displaced of concern to UNHCR (27%), 0.4 million returned IDPs (2%) and 1.7 million others of concern (8%). Behind each statistic lie millions of face and desperate human beings. Asia has the greatest number of persons "of concern" to UNHCR, with nearly 8.5 million, followed by Africa with 6.1 million and Europe with 5.6 million people. Another UN organization, the United Nations

Relief and Works Agency for Palestine Refugees in the Near East (UNRWA), keeps tracks of and assists the 3.8 million registered Palestine refugees in Jordan, Lebanon, Syria, the West Bank and the Gaza Strip.

The Food and Agricultural Organization issues famine alerts, and the UN Office for the Coordination of Humanitarian Affairs (OCHA) issues international appeals for help, containing telling details about the conditions in areas of complex emergencies. The situation reports of UN and governmental agencies, as well as NGOs, are often posted in OCHA's excellent website Reliefweb. Furthermore, OCHA developed its own news service under the motto of "bridging the information gap" for conflict areas of greatest need: regions of Africa (West, East, Central, Great Lakes, Horn, South), Central Asia and recently Iraq. The reports, often with accompanying photos, are filed under the name IRIN or the Integrated Regional Information Network, which is a "UN humanitarian information unit" within OCHA, funded mostly by national development agencies in Europe, Australia and Canada.

The UN also provides us with a picture of the arms holdings and transfers. From its voluntary arms register for major conventional armaments, we learn that the US accounts for about half of the global trade in these arms (tanks, planes, ships, and weapons of calibre larger than 100 mm) and the permanent five members of the Security Council account for well over four-fifths.⁹ More startling, perhaps, is the statistic that more than 68 per cent of the arms

trade was absorbed by the developing world, which can ill afford the cost, in terms of both finances and human life.¹⁰

Small arms are the main killer in the world, having caused millions of deaths in the past decade. In a 1999 press release titled "the UN takes aim at small arms"¹¹, UNICEF and the UN Department for Disarmament Affairs report that small arms have caused more than 3 million deaths in the past decade, with the vast majority of victims being civilians.

We also learn from UN reports of hopeful signs of disarmament, especially in countries coming out of conflict. Cambodia destroyed 15,000 weapons in public ceremonies in March and June 1999 alone. South Africa has pledged to destroy all surplus small arms, including about 260,000 automatic rifles and hundreds of tons of ammunition. In 1998, China undertook strong steps to confiscate illicit small arms, resulting in the destruction of some 300,000 weapons.¹²

The most extensive international survey of firearm effects and regulations was prepared for the UN's Commission on Crime Prevention and Criminal Justice in 1998. The "United Nations International Study on Firearm Regulations"¹³ includes data and narratives from 69 Member States on such issues as firearms-related deaths and injuries, firearms legislation and relevant initiatives in firearms regulation at the regional and interregional levels. The researchers sought to ensure equitable geographical representation of countries around the world but were hampered by lack of statistics for many. The later fact only supports the over-

all conclusion that small arms are not yet under proper regulatory control in most parts of the world.

Finally we learn about the human condition through the UNDP's flagship report, the *Human Development Report*. It is not only valuable for the extensive statistics provided on developing and developed nations, but also in its path-breaking analysis of these figures and the introduction of new concepts (such as the terms "human development" and "human security" themselves). The reports show an unfortunate, though logical correlation between underdevelopment and conflict. Of the 35 nations listed under the category of "low human development" in the *Human Development Report 1999*¹⁴ about half (18) have experienced civil war or fought in international wars in the past decade. If one includes nations with neighbours that have experienced such wars, the number rises to a startling 33 of 35 states!

The Need for Knowledge

To carry out its many responsibilities, old and new, for international and human security, the UN requires accurate and timely information. Finding itself in war zones and in the midst of aggressors, the UN needs background information on the history and culture of the local powers and personalities, as well as information on the current military and political situation, including both the capabilities and intentions of the parties. Without such information, the UN places its military and civilian staff in the field at great risk. These risks can prove unacceptable, as witnessed with the truck-bombing of UN headquarters in Bagdad. With this information,

the UN can operate safer and be a more effective power for peace.

The various goals and roles of the UN can be conceptualized on a simplified timeline of conflict, as in Figure 1. As the conflict begins, the UN will seek to prevent an escalation. During the intensity of combat, the major UN goal is to mitigate the severity of the conflict and the impact on the civilian population. As the conflict de-escalates, the UN will seek to prevent another peak by moving the conflict into termination phase. Finally, once the fighting has stopped, the rebuilding can occur in earnest.

For each UN role, specific information is required. For early warning, the UN needs to know who is seeking to escalate violence, and spoil the peace process, and how they are planning to carry it out. To react through preventive diplomacy and deployment, it is vital to identify the key players and means of influence, and to understand the locations, strengths, goals and vulnerabilities, political and military, of potential “spoilers.” UN officials mediating talks between combatants should identify areas for quick agreement and discern the more difficult problems to address in the long term. For

humanitarian assistance, detailed information about the locations and needs of the affected populations, and about supplies and delivery routes is required. Peacekeeping involves constant patrols to monitor the level of security in the area of operation and identify potential hazards. Peacebuilding necessitates a wide range of economic, social and development indicators to decide which sectors and organizations are the most receptive and resistant to assistance.

To establish an effective sanctions regime, it is necessary not only to identify and catch “sanctions busters” through careful border monitoring but also to prepare impact assessments on the effectiveness of sanctions, including both wanted and unwanted effects. When the UN finally finds itself, as a last resort, engaged in military enforcement or authorizing it, the organization should have detailed military information, including targeting information (to minimize, if not avoid, innocent deaths) and information on the defensive and offensive military capabilities of the targeted forces. Finally, when the UN authorizes a coalition to use military force, it should be able

to monitor the coalition’s actions to ensure they are strictly in accordance with their UN mandate and according to the rules of international humanitarian law.

In war zones, where “truth is the first casualty of war”, there is a constant need for independent reporting. Even warring parties spouting propaganda appreciate a source of objective information, however much they may seek to bias it. After a peace agreement is signed, the objective voice of an independent outside body can make the difference between a lasting peace and a temporary cease-fire, as the UN has shown many times. Just as a referee is indispensable in a professional sports match, an impartial arbiter is essential for verifying and promoting the rules of a peace agreement. Usually, the two sides (conflicting parties) are so distrustful of each other that bilateral adversarial verification is problematic, if not impossible.

Outside monitoring itself can change behaviour. If the parties know that their illegal activities will be exposed they are often more careful not to engage in them. If they know that their positive actions will be verified by an independent agency, they will be more eager to undertake them. Thus monitoring provides a way for a feedback that builds confidence of the parties. Should one side attempt to subvert a peace agreement, it is important that the other side should know about it. False allegations can be disproved and true accusations placed in the public light. The “fog of war” is gradually replaced by the “transparency of peace.”

In practice, peace agreements

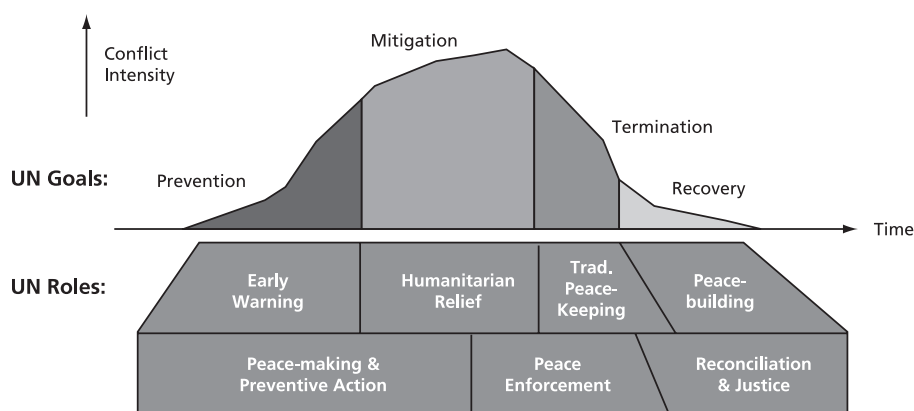


Figure 1. The predominant goals and roles of the UN at different stages in the timeline of conflict.

have loopholes, nuanced clauses and provisions that are subject to widely differing interpretation. This is another reason why it is vital to have an impartial body that can provide outside assistance in dealing with the complexities of implementation.

Countless times, the UN has used its monitoring functions to defuse potentially explosive situations. Whether it be UN military observers in the Middle East stopping a local dispute from escalating, UN control teams in Cambodia identifying assassination plots, UN civilian police in Central America preventing local police from extorting money, or traditional UN peacekeepers inserting themselves between two armies, monitoring the actual or potential combatants is a common and key element.

Lack of Information

When the UN is information-deficient, it invites a host of maladies and political disasters. First, it can appear weak and out of touch, thereby losing credibility and authority. If the UN officials appear ignorant of realities on the ground or the real issues on the negotiating table, they cannot make good mediators. Naive UN field personnel can be taken advantage of by combatants long accustomed to using trickery, disinformation and deception to gain an upper hand at the negotiating table as well as in the battlefield.

For lack of information, great blunders have been committed in UN history. In 1950 in Korea, the UN General Assembly and the Secretary-General, Trygve Lie, fully endorsed the advance of UN forces, led by the American General Douglas MacArthur, across the 38¹⁵ parallel

(and all the way to the Chinese border) in an effort to take North Korea by force, while ignoring the clear warnings that China would intervene. Over two years of war between China and UN forces ensued, leaving four million dead. Before the 1973 Yom Kippur War, the UN (along with the US and Israel for that matter) failed to recognize Egyptian preparations for its surprise attack on Israel. In 1982, Secretary-General Pérez de Cuéllar was caught unawares of the impending Argentine invasion of the Falkland/Malvinas Islands, despite his familiarity with the region and the dispute. In 1993, the Security Council established UN Safe Areas in the former Yugoslavia without a proper assessment of the vulnerabilities of these areas. Indeed, the President of the Security Council at the time, Ambassador Diego Arria from Venezuela, later complained that the United States was not sharing information that was essential for proper decision-making. The tragic massacres within the “protected” areas of Srebrenica and Gorazde in Bosnia are a testament to lack of foresight, political will and commitment. As we shall see, foresight to see coming tragedies and political will to react to them are intimately connected.

Some major “intelligence failures” occurred in areas where UN peacekeepers were actually deployed, bringing great embarrassment to the organization. Examples occurred:

- in South Korea in 1950 prior to the invasion from the North, in which UN observers were unable to warn of the attack (though they provided important confirmation once it had happened)

- in Lebanon during the 1958 civil war, when the US accused UN observers of being blind to an influx of fighters and material;
- again in Lebanon prior to and during the 1982 Israeli invasion, which caught the UN by surprise;
- in Namibia in April 1989 when guerrilla fighters “invaded” unexpectedly and the UN found itself forced to sanction the release of South African forces (garrisoned under a peace accord) which proceeded to massacre of several hundred guerrillas;
- in Iraq in 1990 when peacekeepers failed to report on the impending invasion of Kuwait, leaving the Secretary-General totally off-guard when the attack occurred;
- in Somalia in 1993 during the ill-fated manhunt for General Mohammed Farah Aideed;
- in Rwanda in 1994 prior to and at the beginning of the genocide, when clear warning indicators were ignored;
- in Zaire in 1996 when the UN aborted a peacekeeping operation amidst confusion about the number and conditions of refugees being attacked;
- in East Timor in September 1999 when the reign of terror caught the UN off-guard and unprepared, forcing it to evacuate and forego pledges to the Timorese people.

In some cases, the blame for UN ignorance belongs to field officers; in others responsibility lies with UN headquarters and the Security Council. Usually, blame is spread rather widely but ultimately it can be traced back to the UN member states who do not provide the UN with the resources, finances staff and author-

ity to carry out the much needed information gathering and analysis. Far from discrediting the roles and goals of the United Nations, these failures show how important it is for the organization to possess the means to predict and prevent emerging conflicts. The above examples only support the call for a stronger UN to be able to deal proactively with conflicts. Through a lessons-learned approach, the UN can discover ways to avoid repeating past errors and invest in new approaches and resources to head off future disasters.

The UN Secretaries-General have constantly complained that there is insufficient information to make the best decisions. "The pool of information available to the Secretary-General is wholly inadequate," wrote Secretary-General Javier Pérez de Cuéllar in his 1991 Annual Report on the Work of the Organization. Boutros Boutros-Ghali even recommended that the UN develop an "intelligence" capability, a proposal which was greeted with a chorus of nays from member states because the "intelligence" word, sometimes associated with nefarious undercover operations, had been used. Secretary-General Kofi Annan has made a bold and valiant effort to establish an Information and Strategic Analysis Secretariat (ISAS) within the Secretariat, as proposed in the widely-acclaimed Brahimi Report¹⁶. But this initiative is being resisted by a number of developing states who fear that the UN might pry into their internal affairs. With the new emphasis on the protection of UN field workers, after the tragic Baghdad bombing, a system for realistic threat assessments may finally be created.

The UN and the Information Technology Revolution

Fortunately, a host of new developments are helping the UN overcome the natural and political barriers to information-gathering and to make it a significant player in the information age. Foremost among them is rapidly advancing technology. It is making information easier to access, store, analyse and disseminate. The primitive teletype machines of the 1980s used by the UN offices to print sequential reports from a few wire services are replaced with desktop computers for UN officials, permitting them to draw upon a huge number of sources, including dozens of wire services, using specialized software (e.g., NewsEdge). The Internet has increased the accessibility, scope and depth of information from sources world-wide. The World Wide Web, which is estimated to be doubling every year or so, offers new opportunities for both information-gathering and dissemination. As individuals and civil society in the developing world have begun to post copious amounts of information on the Internet, a new and special source of information becomes available globally, including to the UN. On a typical day, the UN receives over 200,000 requests for pages from its web sites.

Electronic mail has made global communications easier, cheaper and faster. It is quickly gaining a foothold in developing countries, thereby providing UN officials in New York with individual contacts at the grass roots level in countries far away. In addition, as UN information becomes more easily accessible to more groups from around the world, the UN bene-

fits from feedback on its work. The greater world-wide access to UN documents, which were previously not widely circulated outside the UN centres in New York, Geneva and Vienna, and the subsequent analysis and commentary helps in the creation and improvement of new reports and action plans. For instance, the Internet site Reliefweb.int, operated by the Office for the Coordination of Humanitarian Assistance (OCHA), allows the UN to pool information resources from the myriad of UN agencies working in the field, as well as local and international non-governmental organizations, and even national aid agencies. Field reports that previously would have remained strictly within the confines of one department or agency are now available routinely in a timely fashion to virtually anyone in the world at www.reliefweb.int.

The wealth of electronic information would be overwhelming and impenetrable were it not for the excellent search engines on the Internet—"Google" being the search engine of choice among many experts, surfers and researchers. These search engines permit the web surfer to scan vast sections of the Internet—Google searches over three billion web pages—in a fraction of a second in order to produce results ("hits") corresponding to the search terms, however specialized these terms may be. For instance a search on the term "United Nations monitoring" gives 1,500 web pages in 0.18 seconds.¹⁷

Still, the concomitant problems of "information overload and under-use" are common in the UN, as they are all over the world. With an ocean

of information available, more time and insight is required to sift through the mounds of news and background information that are constantly piling up, and less time seems to be available for analysis and reflection.

The growth of the Internet has other potential weaknesses for the world and the United Nations. It fosters a dependency on a system subject to break down and misuse. Examples of the latter include unwarranted surveillance by governments of electronic communications (including those of the UN), the propagation of computer viruses, the use of the medium for crime, corruption and other nefarious purposes, the invasion of privacy in the form of junk e-mail, etc.

But the overall effects are clearly positive. In this electronic revolution, it is harder for governments to control or suppress the flow of information. It is easier for people to span intercontinental distances using electronic communications. The global village is getting smaller. And the UN gains because of it.

Conclusion

True to Wilson's vision in 1919, the monitoring capability of the international community is slowly evolving into a global watch. The faltering but pioneering efforts of the League provided the UN with a foundation on which to build. The end of the Cold War allowed the UN to acquire expanded roles in many new fields to meet the needs of a very unpeaceful world. From early warning to peace-building, from disarmament verification to a terrorist watch, there are new and expanded responsibilities for the UN.

The evolution of international

organization in the past decade is manifested in many forms, but it is in its monitoring functions that we see the greatest growth of roles and responsibilities. How has this come about? Was it the result of a planned strategy or sporadic progress driven by the immediate needs of the day? The answer would appear to be "clearly both", as evidenced by numerous case studies. Creative UN leadership at specific times of international need, if not desperation, permitted the development of significant innovations that brought both progress and precedence to UN monitoring. An enhancement of the UN's capacity for observation was a natural step in the information age, and a much needed one, as the global body could report more impartially and objectively than national governments, especially governments involved in conflicts.

But how permanent is this progress and this process? The UN's evolution has been far from linear; it follows a path strewn with many obstacles and can be characterized as "two steps forward and one step backwards." Some capabilities and functions may again be lost (as happened with some League mechanisms). But much will remain in the form of permanent capabilities, new mandates and new procedures. Once a new role has been successfully demonstrated, the international community usually finds new applications, especially in an age when global governance mechanisms are sorely needed. The monitoring of national elections, peace agreements, sanctions, human rights, etc., gradually covered more countries as the value of these practices were proven and the UN's own

expertise grew. Even still, the application of monitoring is not uniform. The choice of countries and conflicts that are monitored is still based more on national politics (especially from the Permanent Five members of the Security Council), and less on needs of the affected populations.

It is important to identify forces that have sought to undermine, or at least slow down the evolution of UN monitoring. There are many such forces. Some are natural and, indeed, helpful; others are hostile and obstreperous. Many developing countries are reluctant to allow the UN to monitor their activities for fear of negative publicity or the exposure of domestic incompetence, corruption, complicity or other wrongdoing. This also holds true for the activities of the most powerful countries as well. The United States is careful not to allow the UN to threaten its dominance in the intelligence arena, especially on matters where its intelligence reports might be challenged (e.g., on the presence of weapons of mass destruction in Iraq) or US covert intelligence operations might be exposed (e.g., Contra armament in Nicaragua, assassination attempts on Prime Minister Lumumba in the Congo, complicity with Duvalier regime in Haiti, etc.). It has opposed a general purpose arms verification capability for the UN and kept the UN hobbled through its failure to pay its annual dues for about three decades. There are factions within the US right-wing that are openly hostile to the UN and paranoid elements hold that the UN is actually heading a conspiracy to overthrow the US government!

Are there legitimate pitfalls and

prohibited zones for a UN global watch? The issues of privacy, confidentiality, misuse of information must all be examined. Some fear the creation of an Orwellian UN in which "big brother is watching." Those studying the UN and those knowledgeable about its capacities (and limitations) know that such a fear is unfounded. In the distant future, however, perhaps 2084 instead of 1984, could such concerns be validated? In human history, whenever and wherever power was over concentrated, such a concern has arisen, including in the Roman Empire, when the question was frequently asked, "Who will watch the watchman?" But the very nature of the UN, with its diverse membership and international civil service makes it difficult to keep secrets or to overstep the bounds imposed by its members or to take action that would dilute its moral authority. And with more democratic nations than ever before in history (both in absolute numbers and as a percentage of the whole), a dependable system of checks and balances could easily be set up to regulate UN monitoring.

On a practical level, what concrete steps can be taken to produce a better system in the near future? Some feel that it is feasible for the UN to negotiate information-sharing agreements with governments so that it can receive a regular feed of information from a diverse set of nations (which would, presumably, reduce the dangers of bias). The present author is in favour of such agreements as well as other bold initiatives: to create a new legal status for new UN investigative powers within states; to curtail a state's

"right of refusal" of fact-finding teams on certain issues such as human rights, to develop a UN Open Skies treaty, which would allow the UN to overfly national territories as a confidence-building measure (similar to the treaty regime that is now in force between NATO and the former-Warsaw Pact countries). While these proposals may seem radical it is not a departure from the historical development but a natural and fruitful outcome of present trends.

It is clear that UN monitoring should be conducted where conflict is most prevalent or most likely to break out, but should the monitoring system be applied equally to the developed (first) world as well as to the developing (third) world? Should the UN monitor those states who act (or claim to act) as "enforcers" of UN decisions and resolutions, whether they be duly-authorized or self-appointed "coalitions of the willing"? What practical means have been adopted to keep track of such enforcers to make sure that human lives are not lost needlessly or carelessly (as "collateral damage") and that human suffering is reduced to a minimum. This type of UN monitoring lags well behind the others both in UN practice and in academic/activist groups like Pugwash to examine the means of monitoring enforcers and further explore the notion of an emerging global watch. As an "eye that does not slumber", the UN could serve the world, not as "big brother", not as a "big bother" (as some might think it) but as "big helper" that would make both peace and justice more accessible on the planet.

Notes

- ¹ Dr. Walter Dorn is an Associate Professor at the Canadian Forces College and Vice Chair of the Canadian Pugwash Group. He is currently writing a book with the support of a DFAIT Human Security Fellowship on the evolving "Global Watch." He is a scientist by training, with experience on chemical sensing and arms control verification. He served with the UN in East Timor, in Ethiopia, and at UN headquarters as a Training Adviser to the UN's Department of Peacekeeping Operations. His homepage is <www.cfc.dnd.ca/dorn>.
- ² Dorn, A. Walter, "The Cloak and the Blue Beret: Limitations on Intelligence in UN Peacekeeping", *International Journal of Intelligence and CounterIntelligence*, Vol. 12, No. 4, December 1999, p. 414.
- ³ "Political and Peacebuilding missions" were established by the UN, according to the Department of Political Affairs under its mandate, in Burundi (1993), Afghanistan (1993), Guatemala (1994), Somalia (1995), Liberia (1997), Great Lakes Region (1997), Bougainville (1998), Guinea-Bissau (1999), Middle East (1999), Angola (1999), Central African Republic (2000) and Tajikistan (2000). See "Background Note: United Nations Political and Peacebuilding Missions, 1 June 2001", UN Doc. DPI/2166/Rev.4.
- ⁴ These reports are publicly accessible on the UN's Web site: <domino.un.org/MineBan.nsf>, (accessed 20 November 2001).
- ⁵ The previous two paragraphs may be deleted in the final version.
- ⁶ <www.unicef.org/sowc02/feature6.htm>, accessed 20 November 2001. UNICEF generally defines a "child" as is done in the Convention on the Rights of the Child: every human being below the age of 18 years, though the Convention adds the qualification "unless, under the law applicable to the child, majority is attained earlier."
- ⁷ Kofi A. Annan, Foreword, "The State of the World's Children 2002: Leadership, United Nations Children's Fund," <www.unicef.org/sowc02/pdf/sowc2002-final-eng-allmod.txt>, accessed 20 November 2001.
- ⁸ The number of refugees or internally displaced persons (IDPs) 'of concern' to

the United Nations High Commission for Refugees (UNHCR), has stood at 21-22 million in the years for the first years of the 21st century. Information provided on the Home Page of the United Nations High Commission for Refugees for the beginning of the year 2001 (<www.unhcr.ch>, accessed 5 October 2001).

⁹ The six largest exporters of “conventional arms” include the five permanent members of the Security Council, with the US taking the lion’s share: US, 47%; Russia, 14%; UK, 8%; France, 7%; Germany 6%; China, 3%. SIPRI year-book, Stockholm International Peace Research Institute, Stockholm.

¹⁰ Press release, “Transparency in Military Matters Grows”, UN Doc. DC/2799 of 31 July 2001. available at <www.un.org/News/Press/docs/2001/dc2799.doc.htm>, accessed 20 November 2001.

¹¹ UNICEF Press Release CF/DOC/PR/1999/26 of 20 July 1999. Available at <www.unicef.org/newsline/99pr26.htm>, accessed 23 December 2003.

¹² United Nations Secretary-General, Report of the Group of Governmental Experts on Small Arms, UN Doc. A/54/258 of 19 August 1999, p.13. available at <www.smallarmsurvey.org/source_documents/UN%20Documents/Other%20UN%20Documents/A_54_258.pdf>, accessed 23 December 2003.

¹³ “United Nations International Study on Firearm Regulations” (UNSFR), United Nations Crime and Justice Information Network, Vienna, 1998. The report and updates are available at <www.uncjin.org/Statistics/firearms>.

¹⁴ United Nations Human Development Report 1999, United Nations Development Programme, New York, 1999.

¹⁵ The Brahimi report is officially called “The Report of the Panel on United Nations Peace Operations”, UN document reference: A/55/305 and S/2000/809 of 21 August 2000. It is available at <www.un.org/peace/reports/peace_operations>, accessed 23 December 2003.

¹⁶ Search performed with Google on 30 December 2001.

Preparing the United Nations for Rapid Deployment to Protect Civilians

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Ironically, improving UN rapid deployment has proven to be a slow process. We have been at it for more than a decade with national studies, multinational initiatives, international commissions, panels of experts, even conference workshops.

Yet rather than rapid deployment, by 1997 routine delays of four to six months became the norm. By their nature, emergency situations usually require prompt responses. And, earlier this year, a representative from Sierra Leone reminded us about the consequences of slow responses, warning that delays often frustrated the combatants, encouraged re-armament, created security vacuums, provoked ceasefire violations, and further prolonged armed conflicts.¹

Last year, the report of the International Commission on Intervention and State Sovereignty, *The Responsibility To Protect*, revitalized wider interest in the use of force to protect civilians threatened by genocide and mass ethnic cleansing.² While helping to initiate a new international norm, it also raised questions about ‘how’ to protect and ‘with what’, establishing the need to identify and elaborate upon the alternatives.

Increasingly, we hear of ‘coalitions of the willing’, of ‘regional arrangements’ and of ‘mercenary armies’ as the new preferences. There is little doubt that the ‘international community’ will exhaust every dubious option before returning to the one universal institution devoted to

‘saving succeeding generations from the scourge of war’. There is also the questionable notion that the UN cannot handle robust operations or operations that entail authorization for the limited use of force under Chapter VII. Everyone knows that the UN has had difficulties and several serious failures. The successes are seldom heralded. Yet it is noteworthy that many of the recent UN operations have had a robust composition and often a mandate authorizing the use of force (East Timor, Sierra Leone, the Democratic Republic of the Congo, Kosovo).

This is not to suggest that the new EU rapid deployment force or the NATO rapid reaction forces are to be dismissed; they may be quite useful in particular circumstances. At best, however, these are temporary ‘stop-gap’ measures, not viable long-term options for preventing, managing or resolving armed conflicts worldwide. Given the universal membership and wider legitimacy of the UN, this paper will argue the UN must be better prepared for assigned tasks in diverse peace operations, including protection of civilians.

It is relatively easy to see a relationship between rapid deployment and the protection of civilians. Almost anything can happen to civilians when a deployment is delayed by 4 to 6 months. If the objective is to protect, you need to get the mission in place quickly with a credible presence.

Once again, speakers at this year's opening session of the UN Special Committee on Peacekeeping Operations stressed that rapid response was the key to saving lives and reducing costs.³ Secretary-General, Kofi Annan concluded his report to this year's committee urging member states to intensify their attention and response, particularly in the area of rapid deployment.⁴

What is new here? The UN Secretariat has fulfilled its share of the bargain to modernize and reform. The onus is now very much on the member states, particularly those from the wealthier developed world who demanded the reforms as a precondition to further participation.

Although further, more ambitious changes are required, there are indications of recent progress and complementary reforms.⁵ Five are noteworthy.

Recent Progress

First, it is encouraging that the UN Department of Peacekeeping Operations—DPKO—has been substantially expanded to facilitate planning, management and support. At least, there is a new HQ structure, new offices and 50% more staff. That recruitment process is now largely complete. Since the UNTAEAS mission, wherever both possible and justified, robust deployments have been the norm.

Second, already, we hear that there are sufficient Strategic Deployment Stocks at UN logistics base, Brindisi to provide the basic infrastructure and kits for prompt start-up of an operation.

Third, the on-call lists for a rapidly deployable military mission

headquarters attracted sufficient response to fill each of the 154 positions with at least two nominations. It remains to be seen whether this model will provide a coherent headquarters on short notice. That redundancy of personnel listed will likely be needed.

Fourth, the UN Stand-by Arrangement System (UNSAS) has been refined and expanded. As of February, seventy-five Governments indicated their support for this system, with conditional commitments of personnel and equipment listed; conditional as in what the member states might provide.

A fourth 'rapid deployment' level for formed units was added to the system last summer to encourage MOUs for self-sustainment and clarify contingent owned equipment, largely to assist in movement planning and avoid administrative delays. It is early going, but so far only two countries, Jordan and Uruguay have committed to this level.

Within the standby arrangements, however, there are still shortages of enabling units and there is still a need for strategic lift capacity.

The Secretariat has also called for more sophisticated military capabilities that can deter and respond to threats by uncontrolled armed groups. This is easier for some than others, but we already have one relatively good model.

Fifth, the SHIRBRIG was designed to complement the UN stand-by arrangement, with a multinational Stand-by High Readiness Brigade (SHIRBRIG) for UN operations. It has been operational since 1999 and although it has yet to demonstrate rapid deployment, the

intent is to provide the UN with approximately 5000 troops within 15-30 days. There are now 15 member states participating in both the headquarters and the brigade pool. It has quite broad representation, although it needs to attract more. It succeeded in its first traditional mission in Eritrea and Ethiopia and it managed a fairly quick exit, if not a quick entry. In December, the participating member states agreed, in principle, that they would consider more robust operations on a case-by-case basis, effectively suggesting a jump from the former stipulation for Chapter VI peacekeeping to remain relevant in the current operations, which often entail authorization under Chapter VII for the limited use of force.

Would 5000 well-trained, well-equipped troops be enough to make a difference? Of course, it depends on the scope and scale of the particular conflict, but 5000 is the number Major-General Dallaire cited as being sufficient to stem much of the genocide in Rwanda. The British didn't need to deploy that many to have a calming influence on the savage violence in Sierra Leone. Arguably, a coherent brigade group could be very useful in protecting civilians.

The SHIRBRIG is the most advanced mechanism to date for UN peace operations. However, it will have to be modified if it is to remain relevant and ready for new tasks. Given Canada's current Chairmanship of the SHIRBRIG, there is a unique opportunity to take a lead role in preparing military capabilities for the protection of civilians. If it is to be ready for robust operations, including the protection of civilians,

the SHIRBRIG will need to expand its membership and the pool of available resources.

Notably, the Brahimi report (the Panel on UN Peace Operations) encouraged member states to cooperate in developing coherent brigade groups that could be made available to the UN at short notice.⁶ To date, the SHIRBRIG is alone. It has expressed a willingness to share experience and assistance with others who might consider a similar partnership. Coalitions in other regions are exploring partnerships to emulate this model of cooperation (including the AU, SEEBRIG, ECOWAS and SADC).

Aside from the political challenge of attracting additional commitments and capabilities, a major effort will be required to address the current void in understanding how to prepare military forces to protect civilians. At present, there is lack of appropriate doctrine, tactics, training and exercises.

A Preliminary Foundation

Combined, these five related efforts now provide a basic institutional foundation for peace operations. This is also a foundation that should facilitate the establishment of further, more ambitious developments and additional building blocks. Arguably, if it is to succeed, it will have to.

Potential Limitations

To date, this is not a foundation capable of ensuring rapid deployment or the protection of civilians. Why? These arrangements still depend upon political will, prompt national approval and funding, as well as appropriately-trained, well-equipped,

national units—conditions that frequently stymie and slow responses.

This is evident in the UNSAS and even in the SHIRBRIG, which also depends upon the political will of the participating member states and their prompt national approval, which in turn is frequently far from reliable.

Repeatedly, even in resolutions of the UN Security Council, there are warnings of a commitment-capability gap as numerous Member States continue to deny the UN sufficient personnel, mechanisms and funding. That does not bode well for peace operations, for protecting civilians or for overcoming an increasingly divided, militarised and risky world.

Further, we all know that for many affluent Western member states, the political will to contribute declined markedly with donor fatigue, fear of casualties and apprehension over extended commitments, costs and stretched resources.

For example, Canada, which was formerly a leading troop contributor now ranks about 32nd with just over 240 military personnel in UN missions.⁷ But the problem is systemic. Western defence establishments have a strong preference for the big league, big budget, advanced technology, war-fighting roles and a bias toward coalition operations with American forces. This preference is now also reflected in Foreign Affairs, although the new emphasis appears to be on NATO peace operations.

Such preferences are not without consequences. In the past four years, the heavy burden in carrying UN operations has been quietly shifted onto developing countries, which now provide over seventy percent of the personnel for UN peacekeeping.

As a result, there are widespread concerns about an increasingly unrepresentative, two-tiered system that is far too selective and slow.

In short, we finally have an institutional foundation for peacekeeping; it has improved in the past two years with the Brahimi reforms and it might help speed deployments. But due to the preferences of the member states, this foundation was predicated on existing arrangements, not new effective structures. Hence, there is no guarantee of reliability and no assurance of rapid deployment—irrespective of how desperate the emergency may be and irrespective of what is actually happening to civilians.

Renewed interest in a new 'standing' mechanism?

So the wider challenge remains, as does the need for more ambitious building blocks and new structures. One can cite a long list of political and financial impediments, but it is also apparent that the political environment is changing rapidly in a manner that might be conducive to the development of options formerly dismissed as naïve 'long-shots'.

To cite one example, last month, U.S. Secretary of Defense, Donald Rumsfeld informed a group of defense industry leaders in Washington that he was considering the development of a standing international peacekeeping force.⁸ This would be a major departure from the ad hoc system of requesting national approval for national assistance and personnel once a crisis arises. Unlike the conditional and quite unreliable standby arrangements, a standing force is a coherent formation, maintained in

readiness with pre-trained, well equipped personnel, available for immediate deployment once authorized.

However, as reported, Rumsfeld's initial idea was to have the U.S. to organize, train and lead this new force, effectively reallocating responsibility for peacekeeping to the Pentagon, not the United Nations.

Last week, it was also reported that President Bush met with UN Secretary-General Kofi Annan and the Under-Secretary-General for Peacekeeping Operations, Jean Marie Guehenno, to discuss, among other things, options for global peacekeeping and the possibility of training a 'ready cadre' of people from around the Globe.⁹

While many may see the Bush administration's new interest in a standing peacekeeping force as a desperate policy reversal, a 'trial balloon', if not another diversion from current problems, Pentagon officials claim it is being taken seriously, even in discussions with other governments.¹⁰

If that is the case, officials from various member states may soon get a call requesting assistance, if not advice. This might provide an opportunity for supportive governments and organizations to revitalize wider interest in other options and indicate support, albeit only if the focus is redirected toward the UN. Fortunately, reports indicate the American administration is still thinking this through and not yet fixed to a particular preference.

One of the central findings of the Canadian study on developing a UN rapid deployment capability, including a UN standing force, remains

valid: a force alone may be insufficient.¹¹ As most peace operations are now complex multidimensional missions, involving military, police and civilian personnel, there is a need for both robust security forces and useful services that address human needs and provide hope. These must be incorporated in both planning and deployments at the earliest stages.

A UN Emergency Service

A multidimensional UN Emergency Service—a UN '911' composed of military police and civilian volunteers—would correspond to these diverse operational requirements of contemporary, as well as future UN peace operations.

The model of a UN Emergency Service is projected to require a total of approximately 13,200 personnel.¹² This number includes all deployable elements, base support and administration, as well as the operational headquarters. The latter would be expected to ensure two tactical-field headquarters (mission headquarters) were fully functional and capable of assuming operational control over one of the two formations of deployable elements. The deployable elements assigned to each mission headquarters would be identical, including a military brigade group, three companies of civilian police, as well as civilians skilled in diverse humanitarian, peace-building and conflict resolution tasks. These various elements would be within a modular structure allowing deployments to be tailored to the specific demands of diverse assignments. Each package could carry a credible military presence, provide unique support and services, and potentially

fulfill a wide array of tasks.

There would be no shortage of individuals willing to volunteer for service on a paid, full-time basis, similar to that of UN civil servants.¹³ Each would be recruited and selected on the basis of specific expertise and skills, as well as dedication to the principles of the UN. To ensure universal representation, applicants would be encouraged from all member states.¹⁴

According to Kofi Annan and his Under-Secretary-General for Peacekeeping, Jean Marie Guehenno, improving UN rapid deployment remains a priority task; one the UN and various NGOs are still pursuing, despite a lack of tangible support from governments and foundations. That must change!

In his seminal 1957 study, *A United Nations Peace Force*, William R. Frye provided an insight that is worth recalling: that which is radical one year can become conservative and accepted the next".¹⁵ We have yet to achieve Frye's objective. The challenge remains, as does the urgent need. We should prepare accordingly!¹⁶

Notes

¹ Cited in UN, "Rapid Response By UN Key To Saving Lives And Reducing Costs, Speakers Stress In Peacekeeping Committee, As General Debate Concludes", Press Release, GA/PK/178, March 4, 2003.

² See: Report of the International Commission on Intervention and State Sovereignty, *The Responsibility to Protect*, (Ottawa: International Development Research Centre, December 2001).

³ UN, "Rapid Response By UN Key To Saving Lives And Reducing Costs..."

⁴ UN, Report of the Secretary-General to the General Assembly, "Implementation of the recommendations of the Special

Committee on Peacekeeping Operations", A/57/711, January 16, 2003, para. 92, p. 26.

⁵ For more detailed analysis, see H. Peter Langille, *Bridging the Commitment-Capacity Gap: Existing Arrangements and Options for Enhancing UN Rapid Deployment*, (Wayne, NJ: Center for UN Reform Education, 2002).

⁶ United Nations, *Report of the Panel on UN Peace Operations*, A/55/305-S/2000/809, para 115.

⁷ In Canada, it is noteworthy that peace operations have been dropped almost to the bottom of the human security agenda with officials placing their emphasis on gender and expert civilian deployment.

⁸ See Esther Schrader, "U.S. Looks at Organizing Global Peacekeeping Force", *Los Angeles Times*, June 27, 2003.

⁹ Howard LaFranchi, "Bush may forge new model for global peacekeeping", *The Christian Science Monitor*, July 14, 2003.

¹⁰ For further analysis of this option see, H. Peter Langille, "A global emergency force?", *The Toronto Star*, July 4, 2003.

¹¹ See, Government of Canada, *Towards a UN Rapid Reaction Capability*, Ottawa, September 1995.

¹² See Langille, *Bridging the Commitment—Capacity Gap*, pp. 127-128

¹³ An excellent review of the arguments for and against such a development is within, Stephen P. Kinloch, "Utopian or Pragmatic? A UN Permanent Military Volunteer Force", *International Peace-keeping*, vol. 3, no. 4, Winter 1996.

¹⁴ This option was outlined in *Towards a Rapid Reaction Capability for the United Nations*. Further elaboration was provided in H. Peter Langille, Maxime Faille, Carlton Hughes and Major James Hammond, "A Preliminary Blueprint of Long-Term Options for Enhancing a UN Rapid Reaction Capability", in Davic Cox and Albert Legault, (eds), *UN Rapid Reaction Capabilities: Prospects and Requirements*, (Cornwallis: Pearson Peacekeeping Press, 1995), pp. 179-200. Both inspiration and ideas were derived from Sir Brian Urquhart, "For a UN Volunteer Military Force", *The New York*

Review of Books, vol. XL, no. 11, June 1993, pp. 3-4 For an early response to the Urquhart proposal see: Lord Richard Carver, "A UN Volunteer Military Force: Four Views", *The New York Review of Books*, vol. XL, no. 12, June 24, 1993.

¹⁵ William R. Frye, *A United Nations Peace Force*, (New York: Oceana Publications, 1957), p. 77.

¹⁶ This is an appropriate time for an in-depth, independent, transnational study to identify the general and specific requirements for starting, maintaining and operating a UN Emergency Service. This study should provide a review of diverse options and assess their potential for addressing probable tasks and contingencies. It should also offer guidance into appropriate composition, structure and organization.

Bella Americana: Some Consequences for the International Community

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The view that the United Nations is "dead" (Richard Perle) is not new. For rigid supporters of international peace enforcement—peace by military means wherever required—the organization had served its turn already in 1956 when it failed to put an end to the Soviet occupation of Hungary. Serious disappointments would follow: Tibet, Czechoslovakia, Poland, Afghanistan, East Timor, to mention just a few. The UN's major concern has always been *international security* in its prime meaning of the avoidance of war, while all that refers to "positive peace"—in the sense of peace with justice—is seen as subservient to that strategic thrust. It was only after the end of the Cold War that some new optimism could arise regarding a corrective role for the UN in cases of major aggression and grossly oppressive regimes; yet, what followed were the disappointing 1990s, that period of missed opportunities.

Strikingly, it is precisely that "idealistic" peace enforcement discourse that is now employed by the so-called realists who declare the UN to be dead again. It is true, of course, that

Saddam Hussein constituted a major dilemma to the international community, as Tony Blair put it to the House of Commons. However, in such dilemmas between human rights, democracy and disarmament on the one hand, and international security on the other hand, it used to be the latter that tipped the balance. This was probably in line with the intentions of the 51 states that had signed the *Charter of the United Nations* on 24 October 1945, a more realistic design than the "softie" Pact of the League of Nations. "Negative peace", in other words, was grounded in that primary emotion of 1945: Never Again!

Yet, what happened in Iraq cannot be simply interpreted as a victory of American peace idealists against the realism of a Security Council in line with the UN's founders. One should rather speak of a new type of realism, based on unilateral economic interests—the oil supply to the North, for example—and, above all, a unipolar view on power. In the Declaration of 7 June 1997, signed by men like Dick Cheney, Donald Rumsfeld and Paul Wolfowitz, this new

American realism had already been made explicit. An appeal is made to accept America's unique role in the world and to maintain an international order conducive to its security, welfare and principles. In his State of the Union message of January 2002, George W. Bush based his presidential doctrine on the following three principles: active global American leadership, regime change in the case of "rogue" governments and global promotion of neo-liberal democracy. During the past years the United States has acted in conformity with that line, showing time and again that they are with the UN only when it suits them. Instances coming to mind include the Kyoto Protocol and the International Criminal Court. Bypassing the Security Council in a pre-emptive war fits into also that picture. Not surprisingly, the US dealt with the "rogue" issue in the Middle East. Above all, however, in its forceful opposition to the already heavily weakened Iraqi state, Bush had an excellent opportunity to demonstrate American supremacy as the foundation of a new international political order. How to assess the consequences of that "New American Century" in respect of the United Nations, and how to react?

In the search for a new foreign policy, e.g. in the European Union, reference is sometimes made to a *Pax Americana*. With that term, comparisons come to mind with the *Pax Romana* at the start of the first millennium and the *Pax Britannica* in the 19th century. Notably, these hegemonies served "negative peace", particularly in the case of the British Empire outside Europe.² The American obsession with "axes of evil" and

regime change, however, primarily implies war: a series of *Bella Americana*. Strikingly, since 9/11 the United States considers itself as being "in war".

A first reaction, then, that merits serious consideration is Tony Blair's attitude of "If you can't beat them, join them!" While not his official political line—which moved from the dangers of weapons of mass destruction deployable within 45 minutes to "just war" against regimes that cause their own subjects unnecessary suffering—it would at least be a strategy one could understand. In the new century, American military supremacy is a fact of life, and the only way to contain its consequences with regard to the international political order is to stay within the Atlantic alliance. Unfortunately, however, it is not the coalition but the mission that decides policies ("the mission must determine the coalition, the coalition must not determine the mission"³). Illustratively, when Blair seemed to face trouble in his parliament, Defense Secretary Rumsfeld rushed to point out the possibility of "going it alone". In Washington today, even NATO is seen as an impediment to the necessary flexibility. As for the European Union, "disaggregation" appears to be the core of American foreign policy, as a State department official recently declared.⁴

The price one pays for the "join them" formula is its enhancement of the position of the current American administration in the struggle for international legitimacy. We are touching upon a complicated notion here, and one that in international debate is often overlooked. Even when power is "a fact of life", it is

still confronted with the need for *reception* by those affected by its execution. The ruled, in other words, have to accept the rule of the rulers. The new American leadership recognizes this; hence the "imbedding" of journalists in their war machine. In our modern world, legitimacy is the inescapable condition for holding power without repressing one's own people. Apparently, the legitimization effort of the Bush II administration appears to be focused on a combination of ideological persuasion and an emphasis on outcome: "All's well that ends well." However, legitimacy is a matter of three things: the right principles and institutions, the right processes and the right outcomes. As to the principles, the new American leadership no longer recognizes the United Nations' Charter as an International Constitution. Here, a political philosophical battle has to be fought with all possible force, based on a combination of realism and moral conviction. As to the former, *world peace through world law*⁵ is, indeed, not yet a fully realized option and most probably never will be. In a global context, formation and execution of power without a solid legal base remains inevitable. But wherever that takes place, its objectives and focus have to be questioned continuously, and a real effort has to be made to incorporate not only political, but also military and economic power, in an international legal setting. Insofar as global power formation cannot be based on principles of representative democracy, power sharing constitutes the next best option. Essential in this respect is not the incorporation of primarily "the willing", but precisely the incorpora-

tion of opposing forces. Military power may, indeed, provide security, but it can also attract danger and new threats⁶, as illustrated today in post-war Iraq. International law, as positivized in the Charter of the United Nations and further developed through decades of UN practice, is based on the primary principle of non-intervention. Notwithstanding the international character of human rights obligations as *obligationes erga omnes*, humanitarian intervention cannot be based on unilateralist action.⁷ It is the principle of the rule of law, so vigorously defended domestically in the United States, that have to be extended to global forms of governance: limited government, government by law and respect for subjective rights, both of individuals and of groups.

Fortunately, this political philosophical confrontation of the “New American Century” position, based as it is on the *wrong* principles, is already becoming part of the daily debate within the United States. Europe, that birthplace of international law, also has to join in the debate, refuting the attempts at “disaggregation”. International civil society will doubtless take part, too: watch the coming World Social Forum IV in Bombay, January 2004. For Pugwash International, an inspiring role seems an obvious consequence of our strategic thrust in international affairs, with the Annual Conference as a prime opportunity. No less important is the international corporate world. An increasing focus on “corporate responsibility” may well result in a global interest in these matters, too: watch the coming World Economic Forum in Davos,

January 2004. Genuine universality exists in market-related rights and values, rather than in the fundamental freedoms and entitlements following from the Universal Declaration of Human Rights whose quinquennial celebration is loudly announced every five years. The *People* deficit in the new triple value approach—People, Planet, Profit—in global business might worry the participants at the World Economic Forum as much as it does the non-governmental community at the World Social Forum. (Rather urgent, by the way, is the establishment of structural connections between these two principal global fora.)

In respect of global legitimacy, a discussion of the right principles is a great deal easier than an examination of the *right institutions*. There is a lot of well-founded criticism on the UN, and here it is worth listening to the current American administration as well. (Evidently, a focus on legitimacy implies that, in terms of their military supremacy, the United States is not necessarily right, but nor is it necessarily wrong.) Inefficient and ineffective bureaucracies, irrelevant discussions, and endless procedures undermine the organization. The point is that the *right processes*, the next major element in establishing legitimacy in the realm of global power, are necessarily connected with the United Nations, and it happens to be that the UN itself suffers from a lack of democratic legitimation in its decision-making processes. This applies to the United Nations as such, but also to connected agencies such as the World Trade Organization. An impression is created that whatever has been decided in the upper levels,

corrections downstream are never possible. Operational structures will have to be found to facilitate decent and credible association with civil society at both the global and the local level. It is true, of course, that in their exclamation, “Thank God for the death of the United Nations”, Richard Perle and the likes have to be convincingly confronted. But that battle has to be fought with more than words alone; it is, indeed, high time for a revitalization of the United Nations in line with its new tasks. Hence, Kofi Annan’s immediate reaction on the war that bypassed the international community—you stumble, you fall, you rise, and then you walk again—misses the seriousness of the current crisis in the international political order.⁸

A revitalization of the UN is to be founded in the three grand projects with which the organization started after World War II: international security, human rights and development. The major challenge today is to create an approach that integrates across these ventures’ three separate institutional settings: the Security Council, with its international political focus; ECOSOC and the human rights institutions with their juridical focus; and the United Nations Development Program, the specialized agencies and the Bretton Woods institutions with their economic focus. When the Roosevelt Academy in Middelburg (NL) gives out its “four freedoms awards” it nominates not only four prize winners for the freedom of speech, the freedom of worship, the freedom from fear and the freedom from want, but the Academy also awards a fifth: for the four together.⁹

In all three major fields of international governance—international security, human rights and development—a re-engineering seems well in place. If the current crisis were to contribute to such an undertaking, it might even be seen as positive.

Finally, there remains the issue of outcome. In the three areas of this international mission, our world today is confronted with huge deficits. The international security deficit expresses itself in endless manifestations of intra-state collective violence. Grave instances of complete failure of the international community come to mind here (Rwanda, Srebrenica). The realization of human rights suffers from a huge *deficit* too, which is all too often submerged in the general euphoria over human rights declarations, conferences, committee meetings and workshops. Despite the International Criminal Court (confronted by the United States with its “Hague Invasion Act”), a virtually worldwide struggle has to be fought against the impunity of state-related perpetrators of civil and political rights. Moreover, other human rights problems continue to exist: there is an apparent lack of protection offered to minorities; a continued public-private divide, which paralyzes the struggle against domestic violence; and daily non-implementation of economic, social and cultural rights in a world in which so many people’s basic needs remain denied. There is an enormous development deficit, too, manifesting itself in gigantic inequalities between countries and between people. In spite of all progress made since the UN’s foundation, these deficits are still far from being effectively tackled.

Confronting these deficits will require a different style in international politics at all levels. This style will need to be tuned to the consultation and involvement of people, rather than geopolitical maneuvering, and it will need to deal primarily with the real threats, such as lack of water, rather than outward manifestations of power like the possession of weapons of mass destruction.

Within an international setting tuned to negative as well as positive peace, a special position for the United States, with its impressive power in terms of military, financial and human resources, will have to be accepted. Essential in that respect is a legal framework based on a re-engineering of international principles regarding sovereignty and the prohibition of violence. To further this goal, the old principle of proportionality applies: even justified interests are not to be pursued with means that result in disproportionate damage to people outside the actual conflict.

Obviously, then, in the current crisis in the international political order, much more is at stake today than just international security in a narrow sense. Indeed, it is not merely a revision of the Security Council and a discussion on the prohibition of violence between states that are part of the agenda, but also at stake is the role of the United Nations in conflict prevention. For those working on that agenda, the realism of the United Nations’ founders may offer profound inspiration, but their ideals may ultimately prove to be even more crucial.

Notes

- ¹ Professor of Political Economy of Human Rights, Utrecht University; Emeritus Professor of Political Economy, Institute of Social Studies (The Hague).
- ² Cf. W.F. de Gaay Fortman, *Recht en vrede*, in B. de Gaay Fortman (ed.), *Christendom en oorlog*, Kampen: Kok, 1966, pp. 146-147.
- ³ Quoted by Peter van Ham, *Pax Americana als conservatieve revolutie: gevogtrokken voor Europa*, in *Internationale Spectator*, Vol. 57, No 7/8, July/August 2003.
- ⁴ Quoted by Timothy Garton Ash, “Are You With Us? Are We Against You?”, in *The New York Times*, 30th May 2003.
- ⁵ See the magnum opus of Grenville Clark and Louis B. Sohn, *World Peace through World Law* Cambridge (Mass.): Harvard University Press, 1958.
- ⁶ W.F. de Gaay Fortman, *op.cit.*, p. 151.
- ⁷ In case of *force majeure* (“quod est illicitas lege necitas facit licitum”), the international community may legitimize the action through acquiescence (“qui tacit consentire videit”).
- ⁸ See Jan Pronk, VS en VN, in *Roodkoper*, Vol 8, No2, Summer 2003, p. 16.
- ⁹ In 2002 that was awarded to Nelson Mandela.

NATO Reform: New Strategies to Advance International and National Security

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Introduction

The end of the Cold War led to vastly reduced tensions between NATO and the Warsaw Pact. Yet the new millennium has been marked by the continuance of NATO—indeed its great expansion—as well as increased American tendencies to resort to unilateral and isolationist measures. While many people think of the UN as a fifty-year old institution in need of reform, NATO is also a middle-aged organization in need of reform. Wholesale reform will not work. Reforms must be cumulative, built gradually on existing foundations. For instance, the decision to invite Latvia, Lithuania and Estonia into the alliance was one kind of reform. The establishment of the Euro-Atlantic Council and the NATO-Russia Founding Act were others. But NATO needs a much greater transformation of its structures and

procedures if it is to serve the common security interests of the allies and others. Today's ongoing tumult of change necessitates that traditional policies be seriously reconsidered and, perhaps, drastically reevaluated. As September 11th, 2001 made evident, old ways of thinking no longer apply to the world we live in. This article suggests strategies to reform NATO in order to enhance national and international security.

NATO's Approach Toward Nuclear Weapons

Dangerous American attitudes toward pre-emptive nuclear war

Many Europeans and Canadians fear that the Bush administration will resort to using nuclear weapons in a future conflict. Although Russia, China, France, and Britain officially retain the use of strategic nuclear weapons, American development of new theatre and battlefield nuclear

weapons (including the 'robust nuclear earth penetrator') is frightening many because of the US administration's apparent willingness to resort to their use. As the Bush administration declares:

*"Given the goals of rogue states and terrorists, the United States can no longer solely rely on a reactive posture as we have in the past. The inability to deter a potential attacker, the immediacy of today's threats, and the magnitude of potential harm that could be caused by our adversaries' choice of weapons, do not permit that option. We cannot let our enemies strike first....To forestall or prevent such hostile acts the US will, if necessary, act pre-emptively."*¹

The development of nuclear weapons-related technology and possible acquisition by terrorist groups or "rogue states" means the use of nuclear weapons seems more 'credible' now than it has been since the Cuban missile crisis. Whereas it is certainly true that the Americans cannot sit idly by while their security is undermined, the route they are taking—asserting nuclear credibility—will result in a more insecure world with a greater, not less, likelihood of nuclear war. The Western alliance's concepts of nuclear deterrence and nuclear pre-emption must move away from the traditional notion of 'defending' against threats—such as strategic/tactical nuclear weapons, rogue states or terrorists—towards an emphasis on minimal deterrence—and eventually nuclear abolition. But if the US continues on its present trajectory—threatening to respond or pre-empt a nuclear, biological or chemical attack with nuclear weaponry—they will incite an arms



Bob Lawson and panel on Cooperative Security.

race where states will also seek to deter or pre-empt using new types of weapons like “enhanced radiation weapons”, “space control satellites” and “nuclear-survivable communications systems.” The costs for the world will be enormous as countries compete to design weapons for possible use against undeterrable terrorists, on rogue-state battlefields or in outer space. As a new statement on nuclear weapons policy issued by the board of the Nuclear Age Peace Foundation states:

*“It is the US insistence on retaining a nuclear weapons option that sets the tone for the world as a whole, reinforcing the unwillingness of other nuclear weapons states to push for nuclear disarmament and inducing threatened or ambitious states to take whatever steps are necessary, even at the risk of confrontation and war with the United States, to develop their own stockpile of nuclear weaponry. In this post-September 11th climate, the United States has suddenly become for other governments a country to be deterred rather than, as in the Cold War, a country practicing deterrence to discourage aggression by others.”*²

Reassessing NATO’s reliance on nuclear deterrence strategy

Curiously, the NATO allies continue to profess their reliance on the strategy of nuclear deterrence while the US moves toward a pre-emptive ‘first-strike’ strategy that promises to retaliate with nuclear weapons even in the event of a ‘limited’ chemical or biological attack. The situation is similar to the 1960s when the allies continued to rely upon mutual assured destruction (MAD) even as

the US developed ‘flexible response’.³ While NATO recently conducted a review process, its reexamination of the Strategic Concept simply reaffirmed its central tenet—that nuclear weapons are “essential”. Although NATO decision-makers assert that the “Paragraph 32” process is finished, the door needs to be re-opened to further engagement on the question.⁴

We need to remember that efforts to change NATO’s deterrent policy can begin at the nation-state level. The thrust for NATO’s recent review essentially began because Canada’s parliament released a report calling for a re-examination of NATO’s reliance on nuclear deterrence and the Strategic Concept.⁵ The Canadian Foreign Minister Lloyd Axworthy committed his department to attempt to change NATO’s nuclear doctrine—for which he was often labelled a ‘nuclear nag’.⁶ Yet in the final analysis, even American diplomats at NATO headquarters were impressed with the Canadian initiative and the determination of the Foreign Minister and his diplomatic aides, particularly the Deputy Ambassador Robert McCrae.⁷ In a similar fashion, working together with other like-minded countries, such as Germany and Norway, it might be possible to reforge NATO’s nuclear doctrine.

Problems with traditional assumptions about nuclear deterrence

One of the main assumptions the allies need to ask themselves in their reforging of doctrine is whether nuclear weapons protect the alliance by deterring potential aggressors

from attacking. During the Cold War, strategists assumed that by threatening massive retaliation, nuclear weapons could credibly prevent an enemy from attacking. September 11th demonstrated there are no guarantees that the threat of retaliation will succeed in preventing an attack—indeed, it may be difficult to retaliate against a sub-state opponent, like a terrorist group. Also traditional arguments against deterrence still hold true. There are many ways that deterrence could fail, including misunderstanding, miscalculation, poor communication, irrational leadership, and accident.

But, of course, even if some allies seriously question the efficacy of relying upon deterrence, there may appear to be little likelihood that hard-line strategists will come to the same conclusion, in part because it is difficult to give up on long-held assumptions. Will this generation of NATO decision-makers have to retire or die before the allies can relinquish their convictions about deterrence? In each of Christopher Columbus’s four voyages between 1492 and 1504, Columbus believed that “he had reached Asia, he was in Asia, and it was from Asia he returned. No one, nothing, to the day of his death, ever made him relinquish that cherished conviction.”⁸

On the other hand, recent evidence indicates that, in the wake of the September 11th crisis, decision-makers in the highest echelons of American decision-making—including President Bush and his closest advisors—are coming to doubt the efficacy of deterrence and try to think more about this strategy. At a National Security Council on Octo-

ber 9, Vice President Cheney and Secretary of Defense Rumsfeld discussed the possibility that bin Laden (whom they referred to as UBL) might have weapons of mass destruction. “UBL might not be deterrable,” said Cheney. “Well,” the president said, “sponsoring nations of UBL, those that support him, might have some influence with him. Should we send some messages, private or public?” We need to think some more about this, said Rumsfeld.⁹ Clearly strong advocates of deterrence from the ‘New Right’, like Bush, Cheney, and Rumsfeld, now recognize that deterrence may fail to work with sub-state actors and many more alternatives are needed.

Since all the NATO allies depend on a relationship of ‘extended deterrence’ with the US (even if they profess to be nuclear-weapon free on their own soil), it is incumbent upon each of them to re-examine deterrence strategy with a view to generating a cornucopia of alternative strategies ranging from reassurance to coercion. Verifiable treaties, well-funded inspection regimes, cutting-edge technology, strong sanctions, and enhanced control over fissile materials are needed in every region of the world. But history shows that the first steps towards a regional—then global—approach can be taken by the leaders of individual nation-states through regional organizations like NATO and the EU. Each NATO ally needs to reconsider its reliance on extended deterrence in light of the new types of threats and challenges the international community now faces.

NATO in the Aftermath of the Wars against Kosovo, Afghanistan, and Iraq

The lack of consensus about NATO’s collective security guarantees

The NATO allies responded swiftly to the September 11 terror attacks, invoking Article V—the collective defence provision—of the 1949 Washington Treaty the next day. According to the US Department of Defense’s report on allied contributions, the European allies in NATO deployed AWACS aircraft to the US by October 9. The UK and France contributed support aircraft to the air campaign over Afghanistan, deployed ground troops inside the country before the Taliban was overthrown, and dispatched naval forces to the Indian Ocean for maritime surveillance/interdiction operations. Other NATO nations, most notably Canada, Italy, and the Netherlands, also sent naval forces to the Indian Ocean; Canada, Denmark, Germany, and Norway deployed special forces inside Afghanistan; and the Czech Republic deployed a chemical defence unit to the region. The NATO allies also provided the bulk of the 16-nation International Security Assistance Force in Kabul.¹⁰ Apparently all the NATO allies were in agreement about the necessity of a collective response to the attack on America. But the atmosphere of consensus dissipated by March 2003 shortly before the US attack on Iraq.

In March 2003, Belgium, France, and Germany imposed a veto on the commencement of military planning to defend another member state, Turkey, in the event of hostilities with Iraq. To date, the effects of the

Franco-German ‘dovishness’ have been considerable. For example, the former members of the Warsaw Pact that either have joined or hope to join the alliance are asking whether France and Germany might be prepared to veto NATO counter-measures to help them in the event of a crisis? These countries are particularly dependent on NATO’s collective security guarantee because they are being asked to give up much of their ‘all-round’ and ‘outdated’ defensive capabilities in order to contribute ‘specialist’ skills. All the allies need to engage in a discussion about when and how Article V provisions will protect them during a crisis.

Coping with American heavy-handedness

Another fall-’out of the war against Iraq relates to perceptions of American heavy-handedness. US Secretary of Defense Rumsfeld threatened to pull NATO headquarters out of Brussels unless Belgium agreed to repeal a law which gives its courts universal jurisdiction to try cases of genocide, war crimes and human rights violations. While Belgian parliamentarians did agree to change the law to cases in which either the victim or the accused were residents of Belgium, war crimes lawsuits had already been filed against US President George Bush, UK Prime Minister Tony Blair, US Secretary of State Colin Powell, General Tommy Franks, and Secretary of Defense Donald Rumsfeld.¹¹

The new US propensity to threaten others with extreme measures is, perhaps, most telling in the United States’ recent decision to suspend military assistance to six nations seeking NATO membership because they failed to exempt US citi-

zens from prosecution in the new International Criminal Court (ICC). As the deadline passed for governments to sign exemption agreements or face the suspension of military aid, Bush issued waivers for 22 countries but he did not include Bulgaria, Estonia, Latvia, Lithuania, Slovakia, and Slovenia. It is not yet clear whether these countries will sign bilateral waivers in order to obtain military aid; but what is clear is that the Bush administration is taking a more aggressive approach than has ever been seen in NATO corridors. The allies should respond to aggressive bullying just as schools and mature adults respond—with a heavy emphasis on non-violence and respectful confrontation.¹²

New Types of Threats to Allied Security

Reconsidering the Nature of the Threat

NATO needs to reconsider and reevaluate perceived threats to the international community. Who is threatened, by whom, and how? For a while, the fact that there was no longer a significant Soviet threat implied that security could be preserved at much lower levels of defence spending. Now the threats from Slobodan Milosevic, Osama bin Laden, and Saddam Hussein have led to calls for greater defence spending. US President Bill Clinton planned to increase the defence budget in his last year in office by hundreds of billions of dollars, the largest hike in peacetime history.¹³ Then in the wake of September 11, US President George Bush announced his plan to increase the defence budget in 2003 to \$380 billion, more than double that of the

rest of NATO combined. By one estimate, the US is now spending 45 per cent more on nuclear weapons activities than at the end of the Cold War. And many American diplomats are eager to lecture Europeans and Canadians about the need to increase their defence spending.¹⁴ The NATO allies need to discuss whether American plans to increase defence spending to such high levels are a greater threat to the world's security than small-scale tyrants like Saddam.

In any discussion of whether the US itself now poses the most serious threat to allied security, some facts need to be highlighted. After all, it is better to judge a nation by what it does, not what it says. The US has yet to take its nuclear arsenal off the high alert status of the Cold War. It has not renounced first use of or threat to use nuclear weapons under all circumstances. It opposes the Comprehensive Test Ban Treaty (CTBT) and it has withdrawn from the ABM treaty. Plus it is making plans to shorten the time needed to resume testing of new and more usable nuclear weapons. The situation is similar to a boy's gang where the leader is hell-bent on a dangerous course. Do the other boys follow him blindly or do they call a meeting to argue about the club's rules and principles? Being a member of the NATO club does not entail unquestioning allegiance to the club's leader.

Rather than respond in a knee-jerk fashion to the United States' remonstrations, NATO should implement new kinds of defence preparations that are considered vital to NATO—and concomitantly the international community's—concerns. Governments need to

think carefully about how they will spend their defence dollars and where: Is there any need to prepare for high-intensity conflict, as NATO did during the Cold War, and still does? When and how should the NATO allies contribute to UN-sanctioned mid-intensity conflicts, such as the Gulf War, or NATO-sanctioned mid-intensity conflicts, such as the war over Kosovo? What kinds of American defence preparations in Europe (e.g. in Turkey) might be perceived as offensive and provocative, rather than defensive and necessary?

Sharing alternative threat assessments and intelligence

For decades, NATO's assessment of the threat has been shaped and influenced by American military threat analyses. While Prime Minister Tony Blair has been exonerated for taking American intelligence at face value so much so that he was able to argue, fairly convincingly, in favour of attacking Iraq, citizens will not accept this sort of back-handed logic in future wars. In future, domestic publics will demand to see hard evidence of a country's professed transgressions, even if the Americans argue they have the evidence but it cannot be released for security reasons. Some of the lessons of the war against Iraq are that the NATO allies need to undertake more of their own independent military threat analysis.¹⁵ They need to institute the infrastructure and procedures necessary to carry out their own independent threat analyses and share their findings. In conjunction with UN monitoring agencies and international watchdog institutes, NATO could unite with like-minded

nations to provide the UN Security Council with timely and accurate threat assessments based on new information (and possibly conflicting analyses of the threat). Such alternative threat assessments might play a valuable role in ameliorating tensions and defusing arms spirals in the weeks and months preceding possible multilateral or unilateral actions, such as air strikes.

Promoting an atmosphere of conciliation through NATO

Naturally, critics will retort that sharing intelligence—especially contrary evidence as to the nature of the threat—will not necessarily harness the Bush administration from undertaking pre-emptive or unilateralist measures. For many American diplomats at NATO, the lessons of the Kosovo campaign in 1999 and the Franco-German rebuff in 2003 reinforced their belief that NATO is far too cumbersome and bureaucratic. Now that targets have to be approved by a consensus of all 25 members of the NATO club, “coalitions of coalitions” may seem more practical¹⁶, as exemplified by the United States’ ‘coalition of the willing’ in Iraq. Even if one or more of the NATO allies puts forward contradictory evidence about the nature of the threat, the US and members of its ‘fast alliance’ may choose not to accept evidence stemming from alternative sources. A great deal will depend on the quality of the intelligence and in this respect, the more independent European partners in NATO (France, Germany and the UK) could have a lot to offer. NATO headquarters should inculcate a culture where competing interpretations

of threats are encouraged among the 25 allies. On the other hand, such an atmosphere of conciliation and acceptance may take a long time and patient nurturing. As the Ditchley Foundation concluded in a recent discussion of NATO’s future role:

“Whatever the underlying causes, most of us agreed that this level of transatlantic insult had not been seen before and that it had contributed to an unnecessary crisis, the effects of which would be with us for some time. There was a good deal of broken crockery about.”¹⁷

Threats to North American Security

The decline of the Soviet threat previously meant that the North American Aerospace Defence Command (NORAD) was no longer as important to North American security. But now some argue that preparing for possible warfare in space is necessary, and the US (probably in conjunction with Canada) will work through NORAD to develop space-based interception capabilities. In his annual report released on 10 June, the Chief of Canada’s Defence staff, General Ray Henault, stated that Canada had a common interest with the US in developing a missile defence system.¹⁸ In Europe, concerns have long been raised about the European allies’ possible contributions to the US military’s global surveillance, warning, and communications systems.¹⁹ As many Europeans have pointed out, the American government needs to be especially careful that it is not perceived to be intent upon erecting some kind of ‘Fortress America.’ NATO governments should maintain official positions of nonparticipation in active missile and

space-based defence programs. The allies should re-emphasize their commitment to the basic tenets of the Anti-Ballistic Missile Treaty (although the US and Russia chose to abandon the ABM Treaty) and work to ensure that aspects of the missile defense program associated with NORAD do not violate the ABM Treaty’s basic principles.

New Threats and Challenges to NATO and the World’s Security

The Threat of Russian Nuclear Proliferation

The possibility of Russian nuclear weapons and fissile material falling into the wrong hands is great. Desperate conditions exist in nuclear cities and biological institutes across Russia. Many weapons scientists and engineers are not being paid. The sale of nuclear weapons, materials, technology, and the flight of nuclear scientists to other countries is inadequately monitored. A sharp drop in weapons research spending has left thousands of scientists, engineers, and technicians in near poverty.²⁰ NATO should work with other like-minded states through the International Scientific and Technical Center (ISTC) in the former Soviet Union to provide Russian scientists with more long-term research grants and programs that promote alternative civilian employment.²¹ NATO should also propose that an international registrar of scientists be set-up through the UN to track the research activities of all scientists in the world. Similar to the UN Arms Registrar, cooperation would have to be voluntary (in order to preserve academic freedom). However, over time such a registrar could contribute to

increased transparency, openness, and scientific security.

Reinforcing the Nunn-Lugar Program

What can be done through NATO to further enhance Russia's nuclear stability? Much of the problem stems from Russia's weakness, not its strength. NATO should press Russia to continue to centralize control of its nuclear arsenal and consolidate nuclear weapons on Russian soil. More technological and monetary assistance for Russia is necessary. Estimates are that only 37 percent of the potentially vulnerable nuclear material in the former Soviet Union is being adequately protected. The NATO allies can help with more funds in order to avoid a nuclear tragedy from occurring. They might also issue a challenge to other rich nations, such as Saudia Arabia and Japan, to contribute substantial amounts. With like-minded nations, NATO could also sponsor anti-leakage programs at Russian nuclear facilities. As non-nuclear players, allies such as Belgium, Canada, and the Czech Republic could be perceived as neutral third parties genuinely interested in reducing leakage of information and nuclear materials from Russian nuclear storage and launching sites.

North Korea's Nuclear Program

The announcement by the Democratic People's Republic of Korea (DPRK) of withdrawal from the Non Proliferation Treaty (NPT) was disturbing but still more frightening is recent news that North Korea is developing technology that could make nuclear warheads small enough

to be placed atop the country's missiles, which could put Japan at risk. The DPRK claims it decided to withdraw from the NPT "to preserve its sovereignty and defend the country against the continuous moves from the USA to isolate it."²² It would appear that this is a conflict between the US and the DPRK which should not concern the other NATO allies (except Canada, which would be within range of a threatened nuclear attack by North Korea on Seattle). But the Great Powers (US, Russia, China, UK, and France) and smaller European allies cannot absolve themselves of responsibility for the present hair-trigger situation. The failure of the nuclear weapon states to implement their NPT obligations under Article VI of the NPT means many countries like North Korea have the excuse they seek to obtain nuclear arsenals of their own.

The Threat of Conventional Weapons Proliferation

The United States is the largest contributor in the world to the arms trade and arms trafficking. Compared to the other Great Powers, it has an over-sized military industry that promotes American wares with zeal. The Asia-Pacific and Middle East regions are engaged in regional arms races and eager to obtain American weapons systems. Countries like Saudia Arabia are flush with petrodollars and demand American defence products. American companies such as General Motors, are contributing to the worldwide arms race in acquiring conventional weapons. All the NATO allies, particularly the United States, need to actively discourage their own domestic manufac-

turing industries from seeking military contracts in the Asia-Pacific and Middle Eastern regions. Negative inducements could include the elimination of government subsidies and grants and the closure of loopholes that permit tax breaks for research and development for military purposes. Government trade missions and foreign service officers should also be actively discouraged from promoting significant military industry contracts overseas. Each ally must take action so as not to become an important supplier of assemblies, components, and sub-components to arms manufacturers in the United States.

Future Rounds of NATO Enlargement

Delay Further Rounds of Expansion

The first round of NATO expansion took place in the spring of 1999 without widespread Russian approval. Although Russian President Boris Yeltsin conceded at the last moment to the idea of inviting the Czech Republic, Hungary, and Poland into NATO, all the Russian parties and most Russians were opposed to NATO's enlargement from 16 to 19 nations. The second round of expansion, agreed upon in 2002, also runs the risk of inciting old hatreds and new insecurities. The seven former Soviet bloc nations due to join the alliance next year are: Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovenia, and Slovakia. At 25 members, NATO will have difficulty forging a consensus and the US has already expressed interest in working closely, if necessary, with a few close allies, not the entire unwieldy apparatus.

The alliance should postpone any decisions about soliciting newer members (such as Japan²³) to avoid further tensions with Russia, a strong opponent of NATO expansion and the air wars against Yugoslavia and Iraq. The United States and the other NATO allies should delay opening the door to further NATO enlargement until the Russian leadership considers that it is an integral part of Europe's emerging security architecture.

Include Russia in NATO

NATO's first priority should be not to create new dividing lines. A reformed NATO, which did not aim to include the most powerful country in Europe, Russia, would be fatally flawed. The NATO allies should strive to engage NATO and Russia in an active, cooperative relationship that would form the cornerstone of a new, inclusive security structure in Europe. The allies must act strongly through NATO, the UN and other multilateral institutions, such as the G-8 and the International Monetary Fund, to invite Russia into Western security and economic structures.

NATO's air attacks on Serbia, Kosovo, and Afghanistan, make it even more imperative that the alliance make a supreme effort to welcome Russia into European decision-making circles. During the Kosovo war, Russia suspended all contacts with NATO and took its soldiers in Bosnia from under NATO command. Russia's decision to step back from involvement in NATO, within hours of the attack on the former Yugoslavia, indicated that the provisions of the NATO-Russia Founding Act were insufficiently attractive for

Russia to remain engaged in discussions at Brussels. Russia needed more incentives and more reassurances. Then during the war on Afghanistan, Russia supported the US war against terrorism. But the recent controversy about attacking Iraq revealed that, even despite its desperate need for US funding, Russia was against attacking Iraq without the UN Security Council's approval. The US went ahead, despite opposition from Russia, China, Canada, and a host of other countries. It is still too early to say what the damage has been but evidently Russia needs to be consulted, not ignored. More incentives could include formally embedded consultation mechanisms, a mutual non-aggression pledge, and a promise to develop non-offensive defence systems.

The NATO Allies' Approaches toward Worldwide Defence Spending

Maintain Low Levels of Defence Spending

Since 1997, high-level Americans, such as the US Ambassador to Canada, have repeatedly emphasized the need for other NATO members to increase overall military spending.²⁴ Overall, the non-US NATO members spent an average of 1.9 percent of GDP on defence in 2001 as compared to 2.0 percent in 2000. The Czech Republic, France, Greece, Italy, Poland, Portugal, Turkey, and the United Kingdom ranked at or above this average. All other 11 NATO members fell below this average, highlighting that American remonstrations to spend more are failing to convince.

For example, Germany is making

drastic cuts in equipment and slimming down its organizational structures; its focus has switched to peacekeeping, crisis management, and the war against terrorism, rather than defending itself from Cold War attacks. On the other hand, Canada has recently increased its defence spending on capital and equipment sharply. Although Canada's continuing fiscal problems, and its prominent role as a proponent of disarmament, should constrain its spending on defence, the country is setting a poor example which other states could follow. Increasing defence spending is not an option for responsible policy-makers.

Many European defence lobbyists bemoan the continent's low level of spending on defence but domestic publics will not tolerate higher levels of spending. The newer allies will have a tough time coming up with the money to bring their militaries up to NATO's basic standards of interoperability.

One defence official noted that Hungary promised to meet 14 of its initial 48 goals by its acceptance in March 1999 but as of June 2000 had completed only six. "The reason is not our commitment; the reason is money," that official said.²⁵ Taking a strategic view, however, Hungary's geographic location allows NATO to project into Eastern Europe, and Hungary has played an active role in the Bosnia and Kosovo operations as a host nation supporting NATO's deployments and logistics. Similarly, Poland is playing a useful role in charge of NATO's peacekeeping mission in Iraq. At a meeting in Brussels in June 2003, Spain and Ukraine each committed to head a brigade of

an 8,000-strong multinational division to help stabilize Iraq, which will be led by Poland with NATO's support.

Calculate each ally's defence spending fairly

In forthcoming analyses of the allies' abilities to meet an agreed-upon set of capabilities pledges—the "Prague Capabilities Commitments"—the newer NATO allies need to factor into the equation alternative sorts of commitments (*e.g.* to UN and NATO-sponsored peacekeeping) because they also improve the alliance's military preparedness and close the spending gap between the US and its European allies. Even the EU's efforts to field a rapid-reaction force of 60,000 personnel by 2003 should count as a monetary contribution to NATO's security. After all, US calculations of their percentage of GDP spent on NATO include all US defence spending worldwide—including US spending in the Middle East on defence and American foreign military assistance to Columbia—so it makes sense to silence critics questioning whether NATO's European members have the will to deliver on their spending promises by asking NATO officials to calculate spending estimates on all types of defence expenditures. Individual countries should also consider threatening to halt payment for the costs of NATO enlargement until the United States agrees to its fair share of assessed UN dues. If high-level American officials admonish the allies for reduced spending on defence, Europeans and Canadians should remind them of the United States' failure to pay its UN dues fully.

NATO's Approach toward Peacekeeping

NATO overhaul emphasizes rapidly deployable capabilities

Most of the NATO allies, including the United States, are participating more heavily in peacekeeping under NATO auspices than in the past. NATO foreign ministers announced two new missions this year: commanding the International Security Assistance Force in Afghanistan and assisting in Poland's command of a NATO-supported peacekeeping force in Iraq. NATO is also improving its ability to act far beyond Europe and North America through a major restructuring that includes cutbacks at NATO headquarters in Belgium and a stronger presence in the United States. A new command centre in Norfolk, Va will oversee this modernization. More robust, rapidly deployable capabilities will change NATO into "a much more nimble, deployable, action-oriented organization." According to Canadian Defence Minister John McCallum, such a "major streamlining" is "a cultural change that will be significant."²⁶

The most significant change affects NATO operations, which were formerly divided between a European and an Atlantic command. The two will be merged under Allied Command Operations, based in Belgium and under the authority of US General James Jones. A new entity called "Allied Command Transformation" is also being created to supervise changes to NATO's military capabilities, including efforts at joint training between alliance members. The most significant development will be a 20,000-strong 'NATO

Response Force,' ready to deploy within days after its creation in 2003.

At the same time as these peacekeeping initiatives are being planned, the NATO-led Kosovo Force (KFOR) is contributing between 25,000 and 32,000 alliance and non-alliance troops. The Stabilization Force (SFOR, formerly IFOR) in Bosnia-Herzegovina includes about 13,000 NATO and non-NATO troops. Finally, NATO members have been patrolling the Eastern Mediterranean since the terrorist attacks of 2001, a mission called Operation Active Endeavour.

But the risk is that as NATO involves its allies in more "out-of-area" operations, similar to Kosovo, Afghanistan, and Iraq, the rest of the world will come to perceive NATO peacekeepers as defenders of the American empire. There needs to be a return to the UN as the chief guarantor of safety because of the widespread perception that the 'NATO club' consists mainly of Northern, 'rich', 'white' nations based in North America and Europe.

Return to the UN with increased funding and contribute to the SHIRBRIG

The UN continues to experience a funding crisis due to member states' failure to honour their financial obligations. Member states of the UN invest an average of \$1.40 in UN peacekeeping activities for every \$1000 spent on their own armed forces. For example, for every dollar that it has invested in UN peacekeeping, the United States has tended to spend over \$2000 on its own military.²⁷ The NATO allies need to contribute more money and person-

nel to UN peacekeeping or run the risk of being accused of trying to maintain the status quo through NATO peacekeeping. One effective way to do this would be to contribute stand-by forces and equipment to the UN's Standby High Readiness Brigade (SHIRBRIG). Fifteen countries are contributing to the brigade, which successfully monitored the ceasefire between Eritrea and Ethiopia, but more contributors and resources are needed. SHIRBRIG aims to provide the UN with a jump-start, rapid deployment force of as many as 5,000 troops within 30 days notice.²⁸ While NATO's new 'Rapid Reaction Force' will be perceived as US-led and status-quo oriented, each participating state in SHIRBRIG reserves the right to decide whether to deploy national personnel on a case-by-case basis. Canada currently holds the chair and presidency of the brigade. And there is some hope that it could be deployed to avert genocide in the Democratic Republic of the Congo.²⁹

Improve NATO's Peacekeeping Training

NATO could do more to help member states adjust to their peacekeeping responsibilities. Peacekeeping duties now include the monitoring and administration of elections, preventive deployment, humanitarian and human rights functions, the enforcement of UN Security Council resolutions, and nation-building mandates. The burden of peacekeeping for NATO has dramatically increased and many NATO allies have valuable experience and knowledge that could be used to reshape NATO and other multilateral institu-

tions in the new era. However, NATO's institutions and peacekeeping infrastructure remain much the same as they were during the Cold War, despite the explosion of new operations. The promising concept of the Lester B. Pearson Canadian International Peacekeeping Training Centre in Cornwallis, Nova Scotia must be fully developed and implemented as its original architects intended.³⁰ The Pearson Peacekeeping Training Centre is currently only a shell of what it could be. The Chretien government arguably implemented it purely for electoral purposes, not to make real changes to the military's approach to peacekeeping. The Canadian government must ensure that the Pearson Peacekeeping Training becomes widely regarded as one of the best peacekeeping training centres in the world, an invaluable resource for the Canadian Forces, NATO, and peacekeepers worldwide. It must become a centre of learning for all ranks—not just a place for officers and civilians to share peacekeeping ideas and experiences.

Conclusion

NATO has limited time and a small window of opportunity to take advantage of its fairly benign reputation. It is highly unlikely that this regional military alliance will be seen in such a positive light ten years from now. Indeed, NATO is well-situated to make the important changes proposed thus far in this article because the NATO allies did not acquiesce to American pressure to join the war on Iraq. It was evident from France, Germany, and Canada's reluctance to join the war that not everyone could agree on the best methods and most

efficient means of achieving commonly-valued objectives, including the ouster of Saddam Hussein. One important lesson is that every NATO ally—not just the current hegemon—have a duty and responsibility to put forward new ideas and proposals to enhance international and national security. As Professor James Eayrs suggested over thirty years ago in *Fate and Will in Foreign Policy*:

*"Force is the monopoly of the Great Powers, for all the good it does them. But Great Powers enjoy no monopoly over ideas. The foreign minister of a small state may not be able to summon a gunboat in aid of his diplomacy, to carry a big stick let alone to brandish it. But he can carry a briefcase well enough, and stock it with proposals."*³¹

Notes

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²"The Challenge of Nuclear Weapons in the Twenty-First Century: A Path Forward," June 15, 2003, http://waginpeace.org/articles/03.06/0613kireger_21centruy.htm

³For more information, see Erika Simpson, *NATO and the Bomb: Canadian Defenders Confront Critics*, (Kingston & Montreal: McGill-Queen's University Press), 2001, ch. 3

⁴For further analysis, see Pugwash Canada's presentation to DFAIT, "The Only Absolute Guarantee", April 2003, pp. 4-6

⁵Report of the Standing Committee on Foreign Affairs and International Trade, "Canada and the Nuclear Challenge: Reducing the Political Value of Nuclear Weapons for the Twenty-First

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- ¹⁵A similar recommendation was made in 1999 by Canada’s Special Senate Committee on Security and Intelligence, “The Report of the Special Senate Committee on Security and Intelligence,” January 1999, p. 53-56.
- ¹⁶According to US Secretary of Defense Donald Rumsfeld and Secretary of State Colin Powell in Bob Woodward, *Bush at War*, p. 49
- ¹⁷The Ditchley Foundation’s News and Conference Reports, Report by the Director, “The Future Role of NATO”, February 21-23, 2003, p. 1, available at <http://www.ditchley.co.uk/news/13.htm>
- ¹⁸*Ottawa Citizen*, 11 June 2003
- ¹⁹Ann Denholm Crosby, “Defining Security Environments for Global Governance: Canada and the US ‘Global Protection System’,” *Global Governance*, 4, 1998, p. 331-353.
- ²⁰For example, see “Science in Russia: The diamonds in the rubble,” *The Economist*, 8 November 1997 at <http://www.istc.ru/n10.htm>
- ²¹Susan Eisenhower, “The Proliferation of Russian Know-How,” *The Washington Post*, 16 January 1998; p. A21 at <http://www.istc.ru/n12.htm>. See also Victor Alessi and Ronald F. Lehman II, “Science in the Pursuit of Peace: The Success and Future of the ISTC,” *Arms Control Today*, June/July 1998 at <http://www.istc.ru/n14.htm>
- ²²See <http://www.korea-dpr.com/npt.htm>
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Afghanistan and the Genesis of Global Jihad

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The Soviet invasion of Afghanistan in late 1979 turned out to be—contrary to the expectations of the Kremlin leadership—the largest, longest, and costliest military operation in Soviet history. The United States, in support of the Afghan resistance, waged an exceedingly elaborate, expensive, and ultimately successful covert war. Unlike other proxy wars in Africa and South America, for the first time ever, the United States supported a guerrilla army firing on Soviet troops. With Pakistan's General Zia-ul-Haq as America's foremost ally and Saudi Arabia as the principal source of funds, the CIA openly recruited Islamic holy warriors from Egypt, Saudi Arabia, Sudan and Algeria. Radical Islam went into overdrive as its superpower ally and mentor funneled support to the mujahiddin. In 1988 Soviet troops withdrew unconditionally and US-Pakistan-Saudi-Egypt alliance emerged victorious. A chapter of history seemed complete.

Appearances were illusory, however, and events over the next two decades were to reveal the true costs of the victory. Even in the mid 1990's—long before the 9/11 attack on the United States—it was clear that the victorious alliance had unwittingly created a dynamic now beyond its control. The network of Islamic militant organizations created primarily out of the need to fight the Soviets in Afghanistan did not disappear after the immediate goal was achieved but, instead, like any good military-industrial complex, grew from strength to

strength. It now exists with extensive transnational cooperation, coordination, and close ties. Indeed these non-state actors have repeatedly targeted their former sponsors, as well as other states and governments globally—Pakistan, India, Egypt, Saudi Arabia, Philippines, Indonesia, Russia, and the United States have been attacked in recent times.

Prologue To The Soviet Invasion

Building upon the crumbled edifice of European colonialism, the United States had emerged as a superpower at the end of the Second World War with vast global strategic and economic interests. Desolate and tribal, Afghanistan was of only marginal interest. Although there were some attempts to increase US influence through economic aid in the early 1950's this dry, mountainous and barren land was understood to have no significant strategic or economic value. Indeed, there had been implicit acceptance of Afghanistan as belonging to the Soviet sphere of influence. For example, in the Eisenhower era, Secretary of State John Foster Dulles had turned down Afghan requests for American arms. Moreover it placed high value upon Pakistan, a key US ally in the fight against communism, and saw no reason to offend it. Pakistan had—and still has—a simmering border dispute with Afghanistan over the legitimacy of the “Durand Line” by which British colonialism had rather arbitrarily divided the two countries.

Because of its geographical prox-

imity, the Soviet interest in Afghanistan was greater. Aid to Afghanistan—motivated both by ideals of internationalist solidarity and the desire to increase political influence—became of considerable significance during the first decade of the Cold War. By 1956, Afghanistan possessed Mig-17s, Ilyushin-28s, and T-34 tanks. Suspicions of Soviet desires to install a socialist regime in Afghanistan were sometimes aired in the West. But, as a highly fragmented Islamic tribal society, Afghanistan appeared a highly unlikely candidate for socialism. Tribal law and traditions held sway, making it impossible for Afghanistan to function as a modern nation state. There was neither a proletariat, nor a feudal system in the usual sense. Even today cave-dwellers are common in Afghanistan. The subsistence economy provided no market of any interest.

Significant changes, with Soviet support, began occurring in the period of Sardar Muhammad Daud Khan who served as the prime minister of Afghanistan 1953-1963. The first Afghan university was established in Kabul, and in parts of the country a small start was made on public education. Daud's brother-in-law, Muhammad Zahir Shah, had been the King of Afghanistan since 1933. In 1963, he suddenly dismissed Daud. Ten years later, Daud staged a coup, returned to power, and abolished the monarchy. Zahir Shah was exiled to Rome (from where he eventually returned after the 9/11 attack). Daud was supported by some Army officers who later joined the Afghan Communist Party, and by Babrak Karmal, a leftist politician. (Six years later, when the Soviets invaded, they

installed Karmal as President of Afghanistan.) By all accounts, the Kremlin leadership was entirely satisfied with the state of affairs in the early years of Daud's rule. Soviet influence grew, and the Soviet Union became Afghanistan's leading trading partner as well as its leading arms supplier.

By abolishing the monarchy, however, Daud had removed the one symbol of legitimacy that had held Afghanistan together and established the idea of seizing political power through a military coup. A small Marxist party, The People's Democratic Party of Afghanistan, under the leadership of Nur Muhammad Taraki, was to carry this tradition much further. From its inception the PDPA was bitterly divided into two factions, each named after its respective newspaper. Taraki's "Khalq" faction was made up mostly of Pushtuns from rural areas but it aspired to be a Leninist working-class party. Babrak Karmal's "Parcham" presented itself as a broad national democratic front ready to work within the system.



Mohamed Kadry Said and panel on Human Security and the Middle East.

Hafizullah Amin, an instructor at the Teachers' Training School in Kabul, had just received an M.A. at Teachers College of Columbia University in New York. He was described by some as "all charm and friendliness" but ultimately was directly responsible for the execution of probably 6000 political opponents. Babrak Karmal also had a devoted disciple—a former medical student named Najibullah. In each case, the disciple ousted his patron in order to assume the presidency of Afghanistan. Today they are all dead.

In 1978, despite bitter divisions, the PDPA was able to pull together enough unity to engineer a coup against Daud. The Soviet Union, which was watching the Shah of Iran's overtures to Daud, had become wary of Daud and saw a determined effort to draw Afghanistan into a US-tilted regional and economic sphere. It endorsed the coup but controlling this most unorthodox Communist Party was a nearly impossible task, because its leadership was seriously divided, with Karmal challenging Taraki for power from the very beginning. At the time of the coup, at least a third of the Afghan Army's officer corps was Soviet-trained. Nevertheless, nobody in power, in Afghanistan or outside it, foresaw the coup. Taraki boasted that the news of our revolution took both superpowers by complete surprise.

By a series of decrees, the PDPA set out to change Afghan society. To be sure, many of the reforms had honorable intent. For example, child marriages were declared illegal and the minimum marriageable age for girls was set at 16. The purchase and sale of women, sanctioned by tribal

law, was deemed an offence, as were barter marriages. Female education was declared compulsory. These reforms were to end tragically, but the reason was not just the conservatism of Afghan society. From the very beginning, the PDPA pursued a disastrous course calculated to provoke resistance among the people. Taraki's name occurred repeatedly during a radio or TV broadcast with ludicrous titles appended to it, his house was turned into a "revolutionary shrine", and his shoes, pens, and inkpots were put on display. The traditional Afghan flag with colors of Islam was replaced with a red banner. Inexperienced and imperious bureaucrats from Kabul infuriated the peasants by enforcing clumsy "land-reform". It was almost as if the revolutionary leaders had decided, in the name of progress, to outrage every segment of Afghan society.

By the winter of 1978-79, Afghanistan was up in arms against the communists. In the fall of 1978, supported by Pakistan, the Islamic-fundamentalist guerrilla groups that had operated against Daud between 1973 and 1976 reentered Afghanistan with a force of about five thousand. There followed major armed rebellions, which the conscripts in the Afghan Army were unable to put down. Many of them, horrified at being asked to kill their own kin, joined the resistance, bringing their weapons with them. Units of the Afghan Army in the provincial capital of Asadabad defected en masse. In March of 1979, an uprising broke out in Herat, an ancient city near the Iranian border populated by Shiites, who were enthralled by the Khomeini revolution. These pro-Iran-

ian rebels went from house to house looking for government collaborators and Soviet advisers. About a thousand people, including a number of Soviet advisers and their families, were killed; in reprisal, parts of the city were destroyed. In June of 1979, Tehran Radio broadcast the appeal of a senior ayatollah calling upon the people of Afghanistan to rise up against the Communists. The Shiite population of the Hazarajat region staged another uprising.

As detailed in Raja Anwar's semi-important book "The Tragedy of Afghanistan", Soviet efforts to regulate Afghan affairs succeeded only in worsening the situation. On September 4, 1979, Anwar reports, Taraki left for a visit to Havana, and in his absence one of his supporters drew up plans to assassinate Amin. However upon Taraki's return from a visit to Moscow, Amin ordered tanks into all key points in Kabul and had Taraki arrested and confined to his quarters. Three weeks later, the founder of Afghanistan's revolutionary party was murdered, on Amin's orders. Though Amin moved quickly to placate the opposition, mostly by promising religious freedom, and though he was given increasing Soviet military help, he could neither put down the insurgency nor win wider political support. He turned to diplomacy to relieve the pressure, courting both Pakistan and the United States. Yet at the same time he kept asking for more Soviet military aid. By July, there were fifteen hundred Soviet military advisers assigned to the Afghan Army, and a Soviet light-airborne battalion was deployed near Kabul for their protection. In late November, Amin asked the Sovi-

ets to bring in ten thousand soldiers to protect Kabul, so that he could free Afghan forces to attack the rebels in the countryside.

The Soviets Invade

In December 1979, Soviet troops crossed the Afghan frontier and, for the first time since the end of the Second World War, forcibly entered the territory of a sovereign Muslim country. The overriding reason for the invasion was that the civil strife inside Afghanistan was viewed in the Kremlin as "a seat of serious danger to the security of the Soviet state" as Leonid Brezhnev put it two weeks later. Afghanistan has a thousand-mile border with the Muslim Central Asian republics of the Soviet Union, which are populated by Tajiks, Uzbeks, and Turkmens peoples that also inhabit Afghanistan. In 1978, there had been a riot of Tajiks against the Russians in Dushanbe, a town on the Soviet side of the frontier. Toward the end of 1979, the Khomeini revolution in Iran was stirring up Islamic nationalism in the entire region, and the taking of American hostages at the American Embassy in Tehran on November 4th increased the possibility of American military action against Iran within a few hundred miles of the Soviet border.

An extraordinary meeting of 35 Islamic countries met in Islamabad on January 27, 1980 to condemn the "Soviet military aggression against the Afghan people" and to urge that no Muslim country recognize the Democratic Republic of Afghanistan—the name given by the Soviet-installed government in Kabul. But, pointing to the disunity in the Arab world, and to its long-standing sup-

port for the Palestinian struggle, the Soviet Union blunted the criticism substantially. Four months later the denunciations began to fade. This was understandable because many Arab countries had strong military and economic ties with the Soviet Union.

Reactions in the United States were much harsher. Many US commentators believed the invasion was the first move in a grand strategic plan aimed at expanding Soviet power. President Carter quickly accepted the judgment of his national-security adviser, Zbigniew Brzezinski, that the invasion was a threat to the rest of the region. Carter deemed the Soviet invasion as "the greatest threat to peace since the Second World War," and on January 23, 1980, he announced a policy that came to be known as the Carter Doctrine: "An attempt by any outside force to gain control of the Persian Gulf region will be regarded as an assault on the vital interests of the United States of America, and such an assault will be repelled by any means necessary, including military force." US experts declared that Leonid Brezhnev had taken up Peter the Great's quest for a warm-water port and may next break through landlocked Afghanistan to arrive eventually at the Persian Gulf by invading either Pakistan or Iran. Afghanistan now became a metaphor for the Soviet Union's boundless appetite and unpredictable behavior.

America Organizes The Great Jihad

History may well have taken a different course if the year of the Soviet invasion had not also been the year for presidential elections in the US.

But with Ronald Reagan as the rival candidate, Jimmy Carter could not afford to appear soft on the Soviets. Angrily condemning Soviet expansionism, Carter withdrew the SALT II treaty from consideration by the Senate, announced that the United States would boycott the Moscow Olympics, and prepared a major military buildup, which included a Rapid Deployment Force, intended primarily for the Persian Gulf. The Administration requested approval for a C.I.A. covert operation in Afghanistan, and offered Pakistan four hundred million dollars in aid, which General Zia-ul-Haq, Pakistan's military ruler, dismissed as "peanuts" in an astute political move. Suddenly, Afghanistan had become the focal point of American global strategy.

From the day the Soviets invaded, American diplomatic strategy was to mobilize world opinion against the Soviets. American ire was aroused not out of sympathy for the particular victim but by the act of aggression itself and what it portended for the future. Afghanistan was doomed to be a domino. Officials like Richard Perle, Assistant Secretary of defense, saw Afghanistan not as the locale of a harsh and dangerous conflict to be ended but as a place to teach the Russians a lesson. Such "bleeders" became the most influential people in Washington.

Given the highly conservative nature of Afghan society and the spontaneous resistance to the Afghan communist resistance, it did not need a genius to suggest that Islamic international solidarity could be used as a powerful weapon. The task of creating such solidarity fell upon Saudi Arabia, together with other conserva-

tive Arab monarchies. This duty was accepted readily and they quickly made the Afghan Jihad their central cause. It was a natural course of action to take. First, they felt genuinely threatened by the Soviets. Second, it shielded their patron and ally, the United States, whose direct confrontation with the Soviets would have been dangerous and unwise in a nuclear-armed world. But still more importantly, to go heart and soul for jihad was crucial at a time when Saudi legitimacy as the guardians of Islam was under strong challenge by Iran, which pointed to the continued occupation of Palestine by America's partner, Israel. An increasing number of Saudis were becoming disaffected by the House of Saud—its corruption, self-indulgence, repression, and closeness to the US. Therefore, the Jihad in Afghanistan provided an excellent outlet for the growing number of militant Sunni activists in Saudi Arabia, and a way to deal with the daily taunts of the Iranian clergy.

Support for the Mujahideen also fitted perfectly with the Reagan Doctrine—a global package of widely publicized covert aid for anti-Communist guerrillas fighting the established governments in Nicaragua, Angola, Kampuchea, and Afghanistan. Now the United States decided to play in the global game of guerrilla politics and to do what the Soviets had done in the sixties and seventies when they had encouraged wars of national liberation. The US would henceforth do the same by sponsoring right-wing guerrilla movements in the eighties.

The US supplied support package had three essential components—

organization and logistics, military technology, and ideological support for sustaining and encouraging the Afghan resistance.

With William Casey as the director of the CIA, the largest covert operation in history was launched after Reagan signed the "National Security Decision Directive 166", calling for American efforts to drive Soviet forces from Afghanistan "by all means available". US counter-insurgency experts worked closely with the ISI in organizing mujahideen groups and in planning operations inside Afghanistan. Indeed, it was evident to residents in Islamabad and Peshawar in the 1980's that large numbers of Americans were present and involved in mysterious activities. But the most important contribution of the US was to create international linkages and bring in men and material from around the Arab world and beyond. The most hardened and ideologically dedicated men were sought on the logic that they would be the best fighters. Advertisements, paid for from CIA funds, were placed in newspapers and newsletters around the world offering inducements and motivations to join the Jihad.

At the initial stage of the US involvement, fears that the Soviet Union would react harshly against Pakistan prompted caution in supplying arms and military technology to the Afghan resistance. Therefore the strategy then was to minimize the appearance of American involvement and so preserve deniability. Indeed, in the early years, the CIA procured arms of Soviet manufacture captured by the Israelis during various Middle Eastern wars and even manufactured simulated Soviet arms in a clandestine

tine factory. Some time into the war, however, the US began to take a much more overt position and US supplied technology played a key role in defeating the Soviet war machine in Afghanistan.

Perhaps the most decisive single weapon was the shoulder-fired ground-to-air missile known as the Stinger. From 1986 the Afghan mujahideen started receiving Blowpipe and Stinger ground-to-air missiles from Britain and the United States. The first shipment went exclusively to the fundamentalist wing of the resistance; that is, the three groups favored by the ISI and headed by Hekmatyar, Khalis, and Rabbani. The new weapons made Soviet helicopters and low-flying air-support missions exceedingly vulnerable and, even today, helicopter and aircraft wrecks litter Afghanistan's landscape.

The decision to send Stingers was popular in Congress and seen as a way to hurt the Soviets. Some officials in the Pentagon, however, were aware of the risks that these sophisticated weapons channeled through the ISI could land up in other places. Indeed, only a few months after the first Stingers had been supplied, fragments of these missiles were found in the wreckage of two Iranian gunboats. A vigorous world arms market offered high prices for these missiles, and it is likely that many were sold off. The number of missiles supplied by the CIA is said to exceed 1500 and their recovery is still under way¹.

The third component of the Reagan doctrine, emphasizing ideological support to the Afghan resistance, was implemented through extensive propaganda in the global mass media. US television channels lavished praise

on the "brave fighters for freedom" and special documentary programs were produced with adaptations for Islamic countries. Less well known is the extraordinary effort that went into creating propaganda for Afghan children².

An example is the textbook series underwritten by US grants through the mujahideen-operated "Education Center for Afghanistan" in the 1980's. These textbooks sought to counterbalance Marxism through creating enthusiasm in Islamic militancy. A third-grade mathematics textbook, for example, asks the following question:

One group of mujahidin attack 50 Russian soldiers. In that attack 20 Russians are killed. How many Russians fled?

Another example from a fourth-grade mathematics textbook poses the following problem:

The speed of a Kalashnikov bullet is 800 meters per second. If a Russian is at a distance of 3200 meters from a mujahid, and that mujahid aims at the Russian's head, calculate how many seconds it will take for the bullet to strike the Russian in the forehead.

The quotes above are taken from children's textbooks published under a \$50 million grant from the United States Agency for International Development that ran from September 1986 through June 1994 and was administered by the University of Nebraska at Omaha. According to Craig Davis, the UNO program staff chose to ignore the images of Islamic militancy in the children's textbooks for the first five years of the program because "the University of Nebraska did not wish to be seen imposing

American values on Afghan educators".

US-sponsored textbooks, which exhort Afghan children to pluck out the eyes of their enemies and cut off their legs, are still widely available in Afghanistan and Pakistan, some in their original form³. Years after they were first printed, they were approved by the Taliban for use in madrassas.

Pakistan Plays The Key Role

In the decade 1979-1989 Pakistan became the front-line state in the fight against communism. But it is important to realize that Pakistan's involvement in organizing the Afghan Islamic resistance dates much before the Soviet invasion of 1979. In 1973, when Daud, a Pushtun, took over the government in Kabul for the second time, he renewed encouragement to the Pushtuns of Pakistan to secede and join their blood brothers under the Afghan flag. At that point, the government of Pakistan fought back by organizing the Pushtuns into a guerrilla movement to harass the Afghan government. For fifteen years, two very different Pakistani governments, the civilian government of Zulfikar Ali Bhutto and the military regime of Zia-ul-Haq, used the Afghan resistance first as a way of exerting pressure on Kabul, then as a means to strengthen the often wavering American commitment to Pakistan. The more the United States involved itself in the Afghan cause, the more Pakistan would emerge as the indispensable staging area for the fight against Communism, and the more secure the flow of American aid to Pakistan would be.

Pakistan's Inter-Services Intelli-

gence (ISI) Directorate, with headquarters in Islamabad, was charged with distributing the weapons. This was part of the bargain—in fact the part that the US profoundly regrets today—which was the most crucial in determining the character and composition of the Afghan resistance. Throughout the Soviet occupation, the ISI gave only token aid to the Pushtun tribes identified with Zahir Shah even though they were the most important tribes. Zahir Shah himself was not allowed to come to Pakistan to organize Pushtun resistance forces under his banner, which he attempted to do on several occasions. Pakistan decided which groups in the Afghan resistance got the \$3 billion that the United States and its friends poured in. Most of that \$3 billion went to Islamic fundamentalist groups that represented a tiny minority of Afghans but were favored by the ISI. Pakistan was looking for trusted collaborators who would help them to establish a Pakistan-oriented client state in Kabul after the war in order to realize Zia's dream of "strategic realignment"⁴ They wanted to make sure that no U.S. guns or money went to Pushtuns who might try to get back the lost Pushtun tribal areas that now make up the Northwest Frontier province of Pakistan. All training camps were under direct control and operated by the ISI. Years after the Afghan war was won and the Soviets defeated, these camps would be used for training jihadists to fight in Kashmir, Chechnya, Bosnia, Philippines, Russia, and the United States.

By 1985 the Soviets were in bad trouble militarily. They realized that they had blundered into a situation

that offered no respite and offered to withdraw without a political settlement. The switch in the Soviet position provoked an immediate switch in the position of Pakistan that hitherto had only demanded a Soviet withdrawal. Like the "bleeders" in Washington, Pakistani military and intelligence officials were in no mood to let go of a windfall that had brought them immense power, privilege, and money. It therefore became crucial for them to seek means for avoiding a settlement. Indeed, Zia-ul-Haq considered any kind of deal as a betrayal of Pakistan. He spoke bitterly to newspaper editors in Islamabad. "America and Russia have reached an understanding" he said. "By brokering in coal, we have blackened our face." In the absence of a coalition government including the Mujahideen, refugees, and the ruling PDPA, he said, "Soviet withdrawal would only lead the country into chaos, bloodshed, anarchy, and civil war." In such a situation, he claimed that millions of refugees in Pakistan would resist being returned to their homes. But, in fact, these were tactical ploys—Zia had a grand design that envisioned a different concept for Pakistan⁵ and refused to be distracted.

In 1987, the Afghan government of Najibullah extended the olive branch to Pakistan, declaring a unilateral ceasefire and offering a government of national unity. This was rejected. Certainly, this rejection was a blow to Mikhail Gorbachev who was now intent on withdrawing from the Afghan quagmire. Nevertheless, Gorbachev was undeterred and the Russians withdrew unconditionally.

Some Luminaries Of The Afghan Jihad

Months after the Soviet invasion, the US had been pressing hard upon Arab governments to get more involved in the Afghan situation. President Anwar Sadat readily complied, sending the growing Islamic resistance weaponry and military advisers. This act emboldened Islamists in Egypt who, together with leftists, had hitherto been suppressed by the government. These Egyptian Islamists were to form the core of a cohesive Arab movement based in Afghanistan. The CIA actively sought volunteers from Muslim countries across the globe to fight the Soviets, emphasizing Islamic solidarity together with pledges of full financial support. Pre-occupied with a need to bleed the Soviets as much as possible, American officials rarely paused to think of the doubtful qualities of the individuals they had chosen to support. Had they chosen to listen to what the seven resistance groups in Peshawar were openly saying during the course of the Afghan Jihad, their enthusiasm could have been considerably dampened.

Osama bin Laden was among the first Arabs to go to Afghanistan after the Soviet invasion. It was a turning point in his life. Speaking to an Arab journalist, he said "I was enraged and went there at once" and added that "one day in Afghanistan was like praying one thousand days in a mosque". He was appalled at the chaos, disunity, and lack of clear objectives. Although there does not appear to be truth to a frequently made allegation that bin Laden was recruited by the CIA, he did undoubtedly benefit from CIA assistance in

establishing a recruitment drive that, over the next several years, would bring thousands of Arab fighters into Afghanistan. He met the expenses from his own funds—derived from a vast construction empire in Saudi Arabia—and set up training camps. The Ma'sadat Al-Ansar became the main base for training Afghan mujahideen. His close links with the ISI greatly weakened after the debacle in the battle for Jalalabad in March 1989, just shortly after the Soviet withdrawal.⁶

Dr. Ayman al-Zawahiri and *Ahmad Shawqi al-Islambuli* were among the first Egyptians to arrive in Afghanistan. Zawahiri was an Egyptian pediatrician who became Osama's second-in-command and a dedicated commander. Islambuli too was a hard-core fundamentalist and brother of Khalid al-Islambuli, who later assassinated Sadat. Both men eventually became top-leaders of the Al-Qaida network.

Gulbadin Hekmatyar was a young engineering student at Kabul University in 1973 when he was contacted by a Pakistani official, Naseerullah Babar, who later became Minister of the Interior under Benazir Bhutto and is credited with creating the Taliban as a political force. Hekmatyar came from an Afghan rural-tribal background. Contact with modernity at Kabul University changed him—as happens not infrequently when East meets West—into a hard-line Islamist. This made him a Pakistani favorite and a major recipient of C.I.A. aid although he was also well known for his outspoken contempt for the United States. He declared that he would not stop fighting until a fundamentalist order in

Afghanistan was established, and if Pakistan closed its doors then he would continue the fight from Iran. After being elected chairman of the alliance of resistance groups in Peshawar, he declared plans to liberate the Muslim republics of the Soviet Union. After the Russians left, Pakistan picked Hekmatyar to be its man in Kabul, but he had little popular support because his forces had lobbed rockets and artillery shells at the beleaguered city for months. He was dropped when the Taliban appeared on the scene. When the Taliban were destroyed by the American offensive he tried hard to fight his way back into the political scene but he seems to have lost out and is currently either in Iran or Peshawar.

Burhannudin Rabbani, a graduate of Al-Azhar University in Cairo was another favorite of the ISI because of his close integration into the infrastructure of Islamic movements such as the Ikhwan-ul-Muslimeen and Muslim Brotherhood. He was particularly influenced by the writings of Hasan-al-Bana and Sayyid Qutb who called for violent overthrow of governments in Muslim countries to establish a true Islamic state. Rabbani considered both the US and the Soviet Union as sworn enemies of Islam and opposed to Iranian and Afghan revolutions. Thousands of Kabul residents were killed in the fighting between pro-Rabbani and pro-Hekmatyar forces after the Soviet withdrawal and the overthrow of Najibullah.

Younis Khalis, a theologian of the stern Wahabi tradition and a graduate from a Deobandi madrasa was ideologically close to Rabbani but subsequently split and formed the

Hizb-e-Islami. In an interview Khalis told Eqbal Ahmad that he went to Pakistan in 1973 to organize resistance forces to fight Daud, whom he considered a dangerous modernist, even a Communist.

Ismail Khan, the warlord governor of Herat, and a high-ranking member of the Jamiat-I-Islami, is accused of butchering and torturing thousands. His claim to fame is that, during the Soviet occupation he refused to fire on to a crowd and, instead, turned his guns on to the Soviets killing over 350 men and their family members. He is currently with Hamid Karzai's government and considered a pillar of support by the US. He also maintains close relations with Iran.

Today the mujahideen leaders are condemned universally as murderers and thugs but it shall remain a historical fact that these very men had been celebrated as heroes in the US media. TV cameras have recorded for posterity the day when Ronald Reagan feted them on the lawn of White House, lavishing praise on "brave freedom fighters challenging the Evil Empire" and claiming that there were "the moral equivalent of the Founding Fathers [of America]".

Fathering Global Militant Islamic Revivalism

Why did the Afghan jihad succeed when so many other initiatives to promote Muslim unity (e.g. revival of the Caliphate in the early 20th century) failed? In large part, this was because of a gradual but fundamental change in Muslim attitudes towards the world around them. Islamic fundamentalism simply did not exist until approximately 30 years ago as a

political force. Today many important Muslim leaders are fundamentalists but, looking back at the last century, there was not even one!

Turkey's Kemal Ataturk, Algeria's Ahmed Ben Bella, Indonesia's Sukarno, Pakistan's Muhammad Ali Jinnah, Egypt's Gamal Abdel Nasser, and Iran's Mohammed Mosaddeq all sought to organize their societies on the basis of secular values.

It took barely a generation or two for the nationalist period to be cancelled out by rising religious fervor. The reasons are complex⁷ but one truth stands out—the imperial interests of Britain, and later the United States, feared independent nationalism. Anyone willing to collaborate was preferred, including the ultraconservative Islamic regime of Saudi Arabia. In time, as the Cold War pressed in, independent nationalism became still more intolerable. In 1953, Mosaddeq of Iran was overthrown in a CIA coup and replaced by Reza Shah Pahlavi who faithfully served US economic and political interests. Again, for economic motives, Britain targeted Nasser while Indonesia's nationalist president Sukarno was replaced by Suharto after a bloody CIA-led coup that left hundreds of thousands dead.

Secular, nationalist governments all over the Muslim world started collapsing. Pressed from outside, corrupt and incompetent from within, they proved unable to defend national interests or deliver social justice. They began to frustrate democracy and dictatorships flourished. These failures left a vacuum that Islamic religious movements eventually grew to fill. The theoretical basis for such movements had

been laid in the late 1950s by Maulana Abul Ala Maudoodi of Pakistan, Saiyyid Qutb of Egypt, and later by Ayatollah Khomeini of Iran. Theirs was a call to arms, to stop the decay of Muslim civilization and values, and to return to the Golden Age of early Islam. But their message was largely ignored until the turn of events suddenly made them relevant.

The Iranian revolution was the first milestone in forging a strong Islamic militancy. Its impact would have been still greater but for Iran's Shia character. Soon thereafter General Mohammad Zia-ul-Haq seized power and ruled Pakistan for eleven years during which he strove to Islamize both state and society. In Sudan an Islamic state arose under Jaafar al-Nimeiry wherein amputation of hands and limbs was sanctioned. Then, in 1982 the PLO was decisively routed by the Israelis and forced out of Beirut. This largely secular organization was subsequently eclipsed by Hamas, a fundamentalist Muslim movement. Every secular government in Muslim countries was increasingly challenged from within by Islamic forces.

Although Muslim frustration kept growing, the anger was undirected and unable to generate a coherent path of action. The real breakthrough came when the Afghan jihad pitted Sunnis against communist infidels and gained full support from the world's most powerful nation, the United States. Its superb organizational skills, massive human and technical resources, and single-minded dedication to anti-communism enabled it to create potent and unified Islamic entities. No 20th century Muslim ideologue could even

have dreamed of such spectacular success. The global jihad industry had finally come into its own.

At least until 11 September, US policy makers were unrepentant, even proud of their winning strategy. A few years ago, Carter's U.S. national security adviser Zbigniew Brzezinski, one of the key players and "bleeders" of the time gave an interview to the Paris weekly *Nouvel Observateur*. He was asked whether in retrospect, given that "Islamic fundamentalism represents a world menace today", US policy might have been a mistake. Brzezinski promptly retorted:

What is most important to the history of the world? The Taliban or the collapse of the Soviet empire? Some stirred-up Moslems or the liberation of Central Europe and the end of the Cold War?

What Brzezinski had not quite calculated was that his "stirred up Moslems" wanted to change the world. And in this they were to succeed beyond all doubt.

Acknowledgment

My perception of events in Afghanistan was entirely shaped by Eqbal Ahmad, my mentor and friend. This essay is unoriginal—it owes heavily to his published and unpublished works, and even more to his lectures, thoughts, and the close interactions we had over decades. His extraordinary depth of political analysis and understanding of world events was unparalleled among scholars of the subcontinent. His death on 11 May 1999 left a deep, permanent void in the lives of many.

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Notes

¹ During and after the US offensive against Al-Qaida forces in Afghanistan, US agents sought to buy back these shoulder-fired missiles. Even though their internal batteries have overrun their shelf-life, they continue to constitute a danger to US aircraft. The local arms industry in Darra is said to have found a way to revitalize the Stingers. According to Pakistani newspaper reports, several Stingers have recently been bought back and the going rate is said to be around \$50,000 a piece.

² See, for example, Craig Davis in *World Policy Journal*, Spring 2000. The author, who was a doctoral candidate at Indiana University, conducted field-work in Afghan education in

Afghanistan and Pakistan in 1999-2000. The examples quoted in the present essay are from his work.

³ As recently as the time of this conference (Nov 2002) books with a similar content continue to be used in some schools in Islamabad.

⁴ This notion of achieving "strategic depth" has long been espoused by key Pakistani generals including, Akhtar Abdur Rahman (killed along with Zia), Hamid Gul, and Mirza Aslam Beg. This, in fact, was the *raison d'être* for Pakistan's unstinting support for the Taliban until 9/11.

⁵ In an interview with an American journalist Zia said, "All right, you Americans wanted us to be a front-line state. By helping you we have earned the right to have a regime in Afghanistan to our liking. We took risks as a front-line state, and we won't permit it to be like it was before, with Indian and Russian influence there and claims on our territory. It will be a real Islamic state, a real

Islamic confederation. We won't have passports between Pakistan and Afghanistan. It will be part of a pan-Islamic revival that will one day win over the Muslims in the Soviet Union, you will see."

⁶ Osama was extremely angry and convinced that the ISI had drawn the mujahideen into needless slaughter by deliberately misinforming them about the strength of Afghan government troops. But, General Asad Durrani, a former Director General of the ISI, emphatically denied this during our recent conversation on this subject and, instead, put the blame on the lack of organizational discipline of the mujahideen.

⁷ For one analysis of the Muslim world's predicament with science and modern thought, see "Islam and Science—Religious Orthodoxy and the Battle for Rationality", Pervez Hoodbhoy, Zed Books, London, 1991.

A Look at the Nature and Utility of Space Weapons: Not Yet

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In this paper I attempt to sketch the utility of space weaponry, primarily from the point of view of the United States.

In this I draw upon the excellent RAND book¹, "Space Weapons, Earth Wars." That study was commissioned by LGen Roger DeKok, DCS Plans and Programs, HQ USAF. I am guided also by the views expressed in presentations and discussions of which I am aware over the past year. But these are my own judgments, which will be refined by the interactions at this Pugwash session.

I come to this study from a background of 40 years as scientist and manager with the IBM Research

Division, and more than 50 years of involvement with the US

Government's national security programs, beginning with the development and testing of nuclear weapons, and extending to missiles and space.

The US Space Commission Report² cited several needs for space-weapon capability:

1. Defensive Counter-space: To reduce US military space vulnerability.
2. Offensive Counter-space: To deny the use of space and space assets to adversaries
3. Rapid and global power projection to earth.

To address these needs, the RAND Report assesses distinct classes of weapons:

1. Directed-energy weapons such as space-based lasers.
2. Kinetic-energy weapons against missile targets.
3. Kinetic-energy weapons against surface targets.
4. Conventional warheads delivered by space-based, or space-traversing, vehicles.

In addition, any assessment must consider the potential for non-space weapons to perform any of these tasks. This introduces the competing capabilities of:

1. Surface-based anti-satellite (ASAT) weapons such as high-power lasers, or missiles with pellet warheads, or hit-to-kill vehicles.
2. Rapid-response delivery of conventional munitions by forward-deployed cruise or ballistic missiles, or non-nuclear payloads on ICBMs.

And one must also consider countermeasures to space weapons and to these competing systems. A final element of assessment is the vulnerability of both space weapons and of competing systems.

In this preliminary assessment, I take into account the experience of my civilian and military colleagues and their judgments of existing and future threats to US military space, as well as their views of the potential utility of various space and non-space weapons.

Defensive counter-space

We turn to the first application in our list, defensive counter-space. Here we discover that space weapons have little capability for meeting the felt

needs identified above.

Satellite vulnerability is and probably will continue to arise in considerable part from jamming or other electronic countermeasures, sensor blinding from high-powered lasers on earth, and pellet payloads on short-range pop-up missiles. Perhaps the most proliferated vulnerability is the threat of Denial and Deception, camouflage that undermines the effectiveness of our reconnaissance satellites, or operations scheduled under cloud or when satellites are not in position to observe. Here is a tabulation of threats, with the most likely ones listed first:

- 1) denial & deception
- 2) electronic warfare
- 3) attack on ground stations
- 4) sensor blinding
- 5) microsatellites
- 6) direct-ascent interceptors
- 7) nuclear detonation in space

But space weapons do not help to reduce vulnerability for most of these threats. They are limited to intercepting objects that approach satellites in a noticeably offensive way, such as hit-to-kill kinetic energy weapons; and that capability remains to be assessed.

One of the most effective threats is a microsatellite in the form of a "space mine." Surrey Satellite Technology Ltd., a Surrey University company, is a leader in developing microsatellite technology, and has numerous collaborative programs with other countries and with non-state groups. Although microsatellites have peaceful and military non-weapon uses—observation, communication, and the like—they make particularly good antisatellite weapons. In this role, a microsatellite

space mine equipped with maneuver capability exceeding that of the quarry satellite would sit always within lethal range (even a few tens of meters) ready to explode at a moment's notice.

A microsatellite as inspection device might have been useful in conjunction with Columbia's final flight, but a long-endurance microsatellite is a more difficult task. Nevertheless, a cautionary tale is this account of a January 29, 2003, US microsatellite exercise; the XSS-10 repeatedly maneuvered to within 115 ft of its final-stage rocket, taking pictures. A shotgun shell could have destroyed a satellite from such a range.

China carried out similar maneuvers with Surrey technology several years ago.

Since in the vacuum of space (as was known to Galileo) a feather and lead shot fall at the same speed without significant drag, a microsatellite with little payload necessary to devote to other tasks can be equipped to outmaneuver and outlast a major satellite, the primary job of which is surveillance, high-bandwidth communication, and the like.

It is difficult to counter space mines once they are in place. It might be done with defensive microsatellites, but the asymmetric nature of the threat (i.e., tiny expenditures for the microsatellite vs. \$200 million-plus for a major US LEO satellite, makes it desirable to prevent the emergence of such threats.

Two general tools for resolving the microsatellite dilemma are rules of conduct in peacetime, and deterrence by holding non-space assets at risk.

In summary, space weapons are generally not good at protecting

satellites. In the case of microsattel-
lites, one might plagiarize Jonathan
Swift and commit to deploy “smaller
still to bite ‘em.” This is an arms race
in which United States resources far
outweigh those of any other state,
but this advantage is outweighed by
the vulnerability inherent in the cost
of existing and future high-capability
satellites in low Earth orbit.

Power projection and offensive counter-space

We turn now to the remaining two
uses for space weapons, power pro-
jection and offensive counter-space.
Different space weapons have vary-
ing degrees of utility in these areas, so
we will now look at the utility of spe-
cific weapons.

We have already seen how useful
space mines may be AGAINST those
who have valuable satellites and use-
less against those who have none.

Another weapon much discussed
is long-rod penetrators. The idea is
that these long tungsten or uranium
rods would be orbited, and (accord-
ing to the RAND Report) de-orbited
by canceling their orbital velocity, so
that they would fall essentially verti-
cally through the atmosphere, strik-
ing their target with enormous
energy. Two problems that will not
be alleviated by the progress of tech-
nology: the energy is larger the higher
the orbit, but the fall time is greater
as well. The energy of high explosive
corresponds to a material speed of 3
km/s, and one does not arrive at a
similar energy per gram from a pro-
jectile dropped from altitude until
one reaches 460 km, with a
corresponding fall time of 12 min-
utes; a fall from GEO takes almost 6
hours and provides about ten times

the energy density of high explosive.

A rod would need to be guided
accurately to strike its target within
some meters in order to destroy a
surface target by the explosion.

Long rods might be used to pene-
trate through earth to hard or deeply
buried targets. However, the physics
of high-velocity impact limits pene-
tration depth as shown by high-speed
photography of a bullet impacting
steel at just above 1 kilometer per
second. A copper-jacketed lead bullet
fragments against the hardened steel,
but in the process produces a pres-
sure sufficient to leave a small crater.
Very strong projectiles impacting
earth or rock at similar speed can
penetrate to depths several times
their length.

Tests done by Sandia laboratory
confirm predictions that, even for the
hardest rod materials, penetration is
maximum around 1 km/s. Above that
speed, the rod tip simply liquefies,
and penetration depth falls off,
becoming effectively independent of
impact speed. Therefore, for maxi-
mum penetration, such rods would
need to be orbited at very low alti-
tudes, and could only deliver one

ninth the destructive energy per gram
as a conventional bomb. The effort is
entirely mismatched to the results.

Dominating the cost is the need to
put the rod into orbit in the first
place and later cancel its orbital
velocity so that it drops back to
earth. The propellant required to
place the entire weapon in orbit must
suffice to lift both the rod and its
attendant deorbiting propellant. For
low earth orbit, the total velocity
change of about 15 km/s typically
requires several thousand times the
orbiting mass in propellant. Taking
the typical \$10,000 per kg launch
cost to LEO, and assuming a 0.1 ton
rod with the 3 tons of propellant to
stop its orbital motion, the launch
cost to orbit would be some \$30 mil-
lion. And for timely delivery against a
single target at temperate latitude,
several rods in each orbit would be
required and a good many orbits—
say 10. Clearly, the more conven-
tional deorbit maneuver would be
preferable, with a small energy
change and the use of atmospheric
drag (combined with wings or a lift-
ing-body approach) to preserve much
of the orbital velocity as the rod



John Rhinelander, Bob Lawson and Steven Miller.

approaches the vertical.

Whatever the effect actually achieved against a target, it is far better to propel the rod directly from launch to target and avoid orbits altogether—by placing the rods on ballistic missiles. Specifically, a one-km/s penetrator could be provided flexibly by a nominal solid rocket motor giving an acceleration 30 times that of gravity—so 300 m/sec². The desired 1 km/s would be obtained in 3.3 s, over a distance of 1.65 km. A speed of 3 km/s would take 10 s and a distance of 15 km. The cost would be some \$100,000 or less, plus whatever cost for the terminal guidance system—which is surely no greater for the ballistic missile than for the orbiting projectile.

Looking now at the common aero vehicle (CAV) carrying conventional ordnance or intelligence payloads, one finds again that this capability is dominated by CAV delivery by ballistic or cruise missiles—perhaps guided by observation from space. Indeed, the role of the CAV itself is largely supplanted by the familiar “bus” technology for delivering multiple payloads from a ballistic missile launch.

Space weapons and missile defense

We turn now to space weapons (and their competition) for missile defense. For boost-phase intercept—BPI—space-based kinetic-energy (hit-to-kill) interceptors are in competition with surface-based interceptors (on land or sea, or even on aircraft). The non-space options excel against a small state such as North Korea, largely surrounded by water. For BPI, space-based interceptors must be given acceleration and divert capabil-

ities very similar to those required for surface-based interceptors, if they are not to pass harmlessly by the quarry missiles. For missile launches from a small area, space-based interceptors have their required number multiplied by the number of simultaneous launches, and also by the “absentee ratio” because most of the SBI will be on the other side of the Earth and unable to join the fray for a clustered launch.

However capable the surface-based interceptors would be against North Korea, Iraq, or even against launches from Iran, unless based within the target country they are ineffective against ICBMs launched from China or Russia, because the interior of those countries is so far from the borders.

Yet China and Russia are highly capable powers, and it would be much easier for them to destroy space-based interceptors as the constellation is gradually built than it would be for the US to use the SBIs to counter ballistic missile launch. Some observers are skeptical that Russia or China (or France, for that matter) would destroy SBIs in peacetime, but when the question is posed what the US would do if another state deployed a vast number of SBIs, the response of many of my colleagues is that we would destroy them—“shoot them down”.

The airborne laser (ABL) under development and in early flight test (in contrast to the space based laser (SBL) for which no US program currently exists) might serve as a BPI capability against ICBMs launched from North Korea. In the spirit of a “capabilities based” system, it would to some extent complicate NK’s

ICBM program: North Korea would need to deploy from the beginning countermeasures to mid-course and would have to consider countermeasures to an ABL BPI defense. Unlike the mid-course interceptors which, once deployed, would always be ready for use, the ABL would incur large operating costs to maintain a constant presence.

Another weapon of considerable interest is the Space Based Laser. These weapons could attack over long distances at the speed of light, although space mines and the ABL could be equally prompt. A SBL could also attack terrestrial targets, but only with suitable laser wavelengths to penetrate the atmosphere. The current candidate SBL lasers cannot attack ground or airborne targets.

A single SBL, costing billions of dollars, could typically have a range of at most 3000 km, unless the SBL constellation were conceived to have a large number of redirecting (“fighting”) mirrors³. Under those circumstances, a competitive system could use a ground-based laser, redirected by such mirrors³. Cloud at the GBL site would cancel the capability of a GBL, so several would be needed to have high probability that the system would be operable at any time. In any case, the fighting mirrors might be classed by the potential victims as weapons in space as well.

An SBL would be a very expensive means of attacking a satellite, but might be more useful for missile defense purposes. With relatively few SBL in orbit, one might need to be used at 3000 km range. At that distance, with no loss through the atmosphere, a perfect mirror of 3 m

diameter, and laser power output of 3 MW in the 3.8-micron DF band, a target protected with 3 cm of cork could withstand about 200 MJm^{-2} before exposing the target surface to laser heat. (Some Minuteman ICBMs have had a 0.6-centimeter layer of cork to protect the booster from skin friction heating during launch. Such a layer would be vaporized with about 50 MJm^{-2} (5 kJcm^{-2}) from a SBL.) The laser consumes fuel at a rate of some 3kg/MWs, or 9 kg/s, and it would need to fire for 1700 s at the assumed 3000-km range, thus using 15 tons of fuel, at a launch cost for fuel of \$150 million per target attacked. At a range of 1000 km, the launch cost would be some \$16 M per target.

Other countermeasures are feasible and could be multiplicative—such as the slow rotation of the booster during launch.

A substantial constellation of SBLs covering the strategically important region of the Earth could consist of 20-50 such satellites, which could provide rapid illumination of most important points, providing that the target can be destroyed by the laser, and that it is not covered by cloud. Cloud coverage is typically 30-40%, but can range to 70% or more in parts of Germany or North Korea.

But, as analyzed in detail in the RAND publication, many targets are not vulnerable to destruction by SBL, and many that are can be protected by smoke, by water shields, or in other ways. Aircraft yes, and combustible targets or thin-skinned storage tanks. But not bunkers, armored vehicles, or many buildings.

We have already seen that the use of an SBL can easily cost in the range

of \$100 million per target and is contingent on the target being thin-skinned and not obscured by a cloud. For comparison, a Tomahawk missile costs some \$600,000 and will attack heavily armored and non-flammable targets, and is not affected by cloud.

Even enthusiasts consider SBLs a weapon to attack very special targets, while most military capability against similar targets is to be provided by more conventional means. In contrast almost all portions of the earth are reachable by existing cruise missiles (Tomahawk Block 3) launched from outside the 12 nmi limit. The flight time can be several hours.

For the space-based laser, “rapid response” is a sometime thing, since it is necessary to have clear air to allow the laser beam to strike the target—no cloud in the way.

With these competitive means of striking the target, observation could still be provided by non-weapon space assets, so that in addition to attack by navigation (using GPS) one could use a laser-target designator from space with observation and designation provided at the time when a destructive payload arrives in the vicinity of the target—an example of non-weapon military space capabilities contributing to US military capability.

In summary, the one target which can surely be held at risk at modest cost is important and costly satellites, of which the US possesses by far the greatest number and value.

The US Space Commission Report is generally considered as support for the proposition that the US should proceed to develop and deploy space weapons in order to counter the evolution of space weapons by others, and to effect the

needed reduction in vulnerability of US satellites. In fact the commission does not specifically advocate the development of offensive weaponry for deployment in space. In particular, it reads,

“The government...should:

- Invest in technologies to permit the US Government to field systems one generation ahead of what is available commercially to meet unique national security requirements.
- Encourage the US commercial space industry to field systems one generation ahead of international competitors.”

Also,

“Fourth, we know from history that every medium—air, land and sea—has seen conflict. Reality indicates that space will be no different. Given this virtual certainty, the US must develop the means both to deter and to defend against hostile acts in and from space.”

And

“The US must participate actively in shaping the space legal and regulatory environment.”

Conclusions

My own analysis indicates that US deployment of space weapons will encourage and demand the development and deployment of space weapons by others. Others can and will respond to space weapons in asymmetric ways—including the deployment of space mines in their vicinity and the use of short range missiles to lift ton-class pellet payloads against LEO weapons. Furthermore, such responses would inevitably threaten and legitimize counters to US non-weapon LEO

satellites essential to our entire military capability.

It is therefore essential to judge the utility and necessity of space weapons. Of course, any proposed augmentation of US military capability must compete with other means for accomplishing the task. Capabilities unique to space weapons use resources, which must be taken into account.

Net judgments on space weapons utility:

- For offensive counterspace—deny military space to others
 - Jam uplinks or downlinks (from ground or space)
 - Attack ground stations essential to satellite capability
 - Obscure line of sight by screens in space
- For defensive counterspace—preserve US military space capability
 - Attack ground systems which might be disabling satellites
 - Interdict ASAT in powered flight
 - Deter by promise of retaliation—not against satellites but against military and political assets
- For destructive antisatellite (ASAT)
 - The most prompt means is probably microsatellite as space mine, orbiting Earth within 10-100m of its quarry
 - Short-range missiles lobbing ton payloads of coarse sand to orbital altitude at the right time
 - Homing kill vehicles as direct-ascent ASAT

The United States can do it best, but others will soon do it well enough.

- Global and prompt force projection
 - Kinetic-energy (KE) weapons on ICBMs or shorter-range missiles

– Advanced conventional weapons on ICBMs (CAV?) with observation or designation from space, ground, or UAV

- Non-space *weapons* will provide more capability *and* sooner than space weapons
- Destructive ASAT and space-ASAT weapons are a serious threat to overall US military capability and its dependence on space.

Countering satellite vulnerability: A general approach to reducing satellite vulnerability is to reduce our dependence on satellites while maintaining the benefits of satellites at reasonable cost. This can be achieved by supplementing satellite capabilities in wartime by theater resources:

- High-power pseudolites (on the ground and on UAVs) in the theater of operations so that the adversary would obtain no benefit in theater conflict by destroying GPS satellites.
- UAV and rocket capabilities for imagery. At altitudes of 20-30 km, a 20-cm aperture would have the same resolution as a 2-m diameter mirror at a range of 300 km. Such platforms can provide near-constant presence, as well.

A primary means of reducing vulnerability is to reduce the threat—by agreements not to damage or destroy non-weapon satellites. This should be backed up by US developments to intercept or counter such weapons or ASAT used in violation of such an agreement.

We have found general acceptance of this (conditional) conclusion:

If space weapons and destructive ASAT could be avoided by the United States giving up such capability, it would be in our national security interest to do so.

Asserting a “might makes right” rule in space and elsewhere leads, again, to the asymmetric use of force, and this might be the destruction of valuable satellites in peacetime rather than holding them at risk for future destruction.

Nothing is forever—perhaps not even the regime we favor—so an aggressive campaign to prevent the deployment of weapons by others might best be implemented as a US commitment:

not to be the first to test or deploy space weapons or to further test destructive anti-satellite weapons.

This should be supported by a US initiative to codify such a rule—first by parallel unilateral declarations and then by a treaty. Such a campaign would legitimize the use of force against actions which would imperil satellites of any state.

Notes

[†] rgarwin@cfr.org. Work done with Bruce M. DeBlois, Jeremy C. Marwell, and Scott H. Kemp, of the Council on Foreign Relations. This paper was presented at the Pugwash workshop, *Preserving the Non-weaponisation of Space*, 22-24 May 2003, Castellón de la Plana, Spain, and distributed as a background document at the 53rd Pugwash Conference, 17-21 July 2003, Halifax, Canada.

¹ “Space Weapons, Earth Wars,” by Robert Preston, et al, RAND MR1209, June 2002.

² Rumsfeld, D.H. et al. “Report of the Commission to Assess United States National Security Space Management and Organization,” January 11, 2001.

³ Bethe, H.A., and Garwin, R.L., “Space-based Ballistic-Missile Defense,” *Scientific American*, Volume 252, No. 4, October 1984. (Figure on p. 44).

From Beijing to Kyoto: Gendering the international climate change negotiation process

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The issue of climate change has surfaced relatively recently on the scale of environmental concerns, yet international responses to it have been notably swift and tightly targeted. In just over a decade and a half, climate change has garnered international attention and the international response to this global problem has shifted from contentious debate on its presumed-dubious scientific groundings, to virtually global acceptance of the reality of the problem and the severity of its predicted effects. This progress has been quite remarkable given the breadth and complexity of the problem, in social, economic, political, and scientific terms. However, while the expediency of the international climate change negotiation process deserves guarded praise, the exclusive nature of the process, from a gender perspective, raises considerable cause for concern.

Despite the overt United Nations commitment requiring all UN processes to abide by the principles for mainstreaming a gender perspective, the international climate change negotiation process has remained in contravention of these principles by assuming gender-neutrality and by failing to engage in required gender-analysis. I will argue that this failure has not only resulted in the process coming up short on gender equity principles, but also that this has had, and will continue to have, injurious effects on the process in terms of efficiency and effectiveness¹. The inter-

national climate change process will be unable to achieve truly global legitimacy or relevance until it adopts the principles of gender equity at all stages of the process, from scientific research, through analysis, agenda formation, negotiation and decision-making, regime implementation, and finally in further development and evaluation.

Setting the boundaries through definition

In order to effectively engage in this debate, it will be useful to clarify a few concepts at the outset. First of all, 'gender' is a concept, distinct from 'sex', that "refers to the way in which, in any particular society, individuals are socially constructed to behave and experience themselves as 'female' or 'male'" (Jacobson 2002). This is changeable over time and there are wide variations of gender experiences within and between cultures, which depend on factors such as age, class, and ethnicity (Mertus 2000, 18). Furthermore, "gender always carries with it some form of relational content", which contributes to a person's gendered identity (Jacobson 2002). Thus, the use of a gender perspective in the analysis of any issue "recognizes, understands, and utilizes the knowledge of gender differences in planning, implementing and evaluating programs and working relationships" (Hanley, quoted in Mertus 2000, 15).

According to the UN's *Beijing Declaration and the Platform for Action*, there is a stated need to mainstream a gender perspective throughout all UN activity areas (UN 1996). Furthermore, the UN has acknowledged that women's right to participate in decision-making constitutes their basic human right as well as their right and responsibility as citizens (Gierycz in Skjelsbaek & Smith 2001, 18-19). In July 1997, the Economic and Social Council (ECOSOC) defined the mainstreaming of a gender perspective as:

The process of assessing the implications for women and men of any planned action, including legislation, policies or programmes, in all areas and at all levels and as a strategy for making women's as well as men's concerns and experiences an integral dimension of the design, implementation, monitoring and evaluation of policies and programmes in all political, economic and societal spheres so that women and men benefit equally and inequality is not perpetuated. (Gierycz in Skjelsbaek & Smith 2001, 19)

These principles collectively challenge the assumption of gender-neutrality, rendering this assumption illegitimate and ignorant not only of accepted UN policy but also blatantly ignorant of concern for gender equity.

Let us now also open up some of the conceptual definitions surrounding climate change and allow the clarification of what I refer to as the "international climate change negotiation process". While it is not practical in this context to engage in a lengthy scientific explanation of the

processes that cause and result in climate change, it is feasible to begin by acknowledging that:

...scientists have known for many decades that an increase in the atmospheric concentration of carbon dioxide (CO₂) and other gases which absorb infra-red radiation should warm the earth's surface, changing climates in various ways. Measurements started in 1957 showed unambiguously that atmospheric concentrations of CO₂ were rising steadily due to human activities, primarily fossil fuel burning and deforestation. (Grubb et al 1993, 61)

If it may be agreed that this is more or less the scientific process causing climate change, then the human process of international meetings and negotiation to obtain agreement on how to slow or alter this process, or at least to mitigate its effects, can be referred to as the international climate change negotiation process.

The general objectives of this process were summed up in the UN Framework Convention on Climate Change (UN FCCC). Article 2 (Objective) states:

The ultimate objective of this Convention...is to achieve...stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner. (Grubb et al 1993, 63)

The UN FCCC remained the focal point of the international climate change negotiation process throughout the 1990s and has now survived into the 2000s, with the most current major development in the process being the agreement in 1997, and ongoing ratification, of the Kyoto Protocol (Grubb et al 2001, 36-37).

Very briefly, the Kyoto Protocol, which is the culminating product of the Kyoto conference, i.e. "the biggest and most high-profile event on the international environment since the Rio Earth Summit", sets out legally binding (pending ratification) commitments by industrialised countries to limit their greenhouse gas emissions (Grubb et al 2001, 61). The commitments were made according to agreed implementation time scales in conjunction with "a complex package" of "global 'soft' commitments, related processes on technology transfer and financial mechanisms, policies and measures, minimization of adverse impacts, sinks, and compliance mechanisms...designed to gain and sustain global participation" (Grubb 2001, xli). In short, Kyoto is the world's comprehensive—albeit imperfect—agreement guiding international policy and practice on the control and mitigation of climate change.

Given this definitional introduction to two seemingly distinct "issue areas", it will now be useful to draw some links between gender issues and climate change, and to establish the foundation for a gender-based critique of the international climate change negotiation process.

Foundations for fair criticism

As I have begun to show, the formal principles guiding international action on both climate change and gender equity are grounded in development initiatives of the United Nations. The UN FCCC is actually one of several agreements emerging from the UN Conference on Environment and Development (UNCED), which itself was the product of a long preparatory history of meetings and discussions.² Similarly, much of the formal international work on gender equity has taken shape in the UN, beginning with the creation of the UN Commission on the Status of Women (CSW) in 1947, further taking shape through UNIFEM and the UN Conferences on Women in Copenhagen 1980, Nairobi 1985, Beijing 1995, Windhoek 2000, and also with Security Council Resolution 1325 (Gierycz in Skjelsbaek & Smith 2001, 15). Underpinning both of these development initiatives are concerns for achieving greater *global equity and efficiency in development*, in the interests of women and men, and the common future they share on Earth. As such, progress in the areas of both gender and environmental issues was intended to *crosscut* all issue areas of the UN, and to avoid becoming mainstreamed as an afterthought to other processes (Gierycz in Skjelsbaek & Smith 2001, 19; Greene 2001, 390).

Given these parallel beginnings, it is increasingly evident that gender, environmental, and development concerns should be considered in concert with one another, as complementarities, and certainly not as competing interests. Moreover, based on the common goals of achieving effi-

ciency and equity, it would appear that the two issue areas stand to gain from being mutually supportive, and contrastingly, that it would be of lesser value to consider one to the exclusion of the other. Ironically, while the formal UN-based women's movement has developed and maintained an interest in the inclusion of environmental issues throughout its development³, the UN-based environmental movement, and specifically the international climate change negotiation process, has essentially ignored gender issues by assuming gender-neutrality⁴.

Before moving on to a discussion of how this exclusion came to be, and how the process may be redeemed, allow me first to explain briefly why gender issues should indeed be made central to the development of the international climate change negotiation process.

Making the case for gender inclusiveness

Climate change is often viewed as a scientific process, making it difficult to understand and often even more difficult to explain to the wider public (Villagrasa 2002, 41). This is further confounded by the belief that most of the effects of climate change will occur only in the future, complicating the generation of immediate public concern (Villagrasa 2002, 41). Fortunately, however, the very real, very *human* aspects of climate change, including its anthropogenic causes and the severe effects it will likely have on human life are increasingly being acknowledged.⁵ Consequently, there is also growing awareness of the differential ways in which women and men are slated to experi-

ence climate change. These differences occur principally in the areas of responsibility, vulnerability, adaptability, and mitigation (Skutsch 2002).

Responsibility

Evidently, both sexes are implicated in the human responsibility for climate change based on their participation in the global economy (Skutsch 2002, 32).⁶ However, women's and men's participation in the global economy, defined in this case as their use of products and services owing to the emission of greenhouse gases, is neither the same, nor equivalent, on a global scale (Skutsch 2002, 33). For example, if we consider car use and ownership, although the sexual division has become less extreme in the past few decades in the Western world, "it is evident that cars are still more used by men than by women, with the side-effect that women are often disproportionately dependent on public transport" (Skutsch 2002, 33). This is only one of thousands of examples of women's and men's differential involvement in the global economy contributing to climate change. The point here is not to accrue blame on one sex or the other, but rather to emphasize the fact that since women and men have differential responsibilities for contributing to climate change, it is thus only logical to incorporate a gender perspective when conducting research on human responsibility for climate change.⁷

Vulnerability

It is with regard to vulnerability that the majority of women's research on gender differences and climate

change has been conducted. This is because it is relatively frequently acknowledged that "the effects of climate change are very likely to be gendered...because of the strong relationship between poverty and vulnerability to environmental change, and the stark fact that women as a group are poorer and less powerful than men" (Nelson *et al* 2002, 51). While a statement as broad as this should not be accepted without qualification and acknowledgement of the significant gains women have made to challenge their assumed vulnerability⁸, it is clear that climate change will have the most dramatic and likely detrimental effects on the most vulnerable segments of society (IPCC 2001), and this does, for a variety of reasons⁹, often include women (Nelson *et al* 2002, 52).

Adaptability and Mitigation

Regarding adaptability and mitigation, women have been shown to be both capable of, and especially adept at, adapting to climate change (Masika 2002, 6), as well as being willing to play a key role in developing and implementing mitigation strategies (Skutsch 2002, 35). However, in both cases, women are much more likely to achieve this if granted the opportunity and agency necessary to become involved in the process (Skutsch 2002, 35). This would, however, involve the granting of space for the voices of women to speak on behalf of women. This issue brings us neatly back to the lack of gender analysis and gender perspective in the international climate change negotiation process.

Based on the evidence presented in the preceding paragraphs, it is irre-

sponsible to deny that climate change is a gendered concept. After all, under the assumption of the gender neutrality of both the problem and the process, it is not that the above issues disappear, but rather that they remain suppressed and ignored. It would seem logical, therefore, if our goal is to achieve maximal efficiency, for our response to climate change to aptly emerge from a gender analysis and incorporate a gender perspective at all stages of the process, from scientific research, through regime formation and mitigation-strategy implementation. Yet the international climate change negotiation process fails to incorporate a gender perspective in an integrated and meaningful way. I maintain that the consequence of this neglect is a lack of efficiency and equity in the process, given that a gender-neutral process and gender-neutral mitigation strategies will fail to address the differentiated concerns and needs of half of the human population.

I will now turn my attention to an examination of the development of the process, in order to illustrate how it evolved to the exclusion of women, before proceeding to recommendations on how the process might be reorganised in such a way as to include a gender perspective.

How the process proceeded to exclusion

As I have noted, the international climate change negotiation process has its roots in UN initiatives, not the least of which was the formation of the Intergovernmental Panel on Climate Change (IPCC) in 1988, under the auspices of the UN Environment Program (UNEP) and the World

Meteorological Organisation (WMO) (Grubb *et al* 2001, 4). The IPCC provides “authoritative assessments to governments of the state of knowledge concerning climate change” and it is these reports that provide the “scientific underpinning for the diplomatic processes of the UN FCCC” (Grubb *et al* 2001, 4). The IPCC has evolved into “what is probably the most extensive and carefully constructed intergovernmental advisory process ever known in international relations” (Grubb *et al* 2001, 4). Its first assessment report jump-started the UN FCCC and its second assessment report “marked a crucial stage in the progress of global action to combat climate change...set[ting] the context for the negotiation of the Kyoto Protocol” (Grubb *et al* 2001, 4). And yet, this most influential UN-based body has taken an almost exclusively gender-neutral stance in its research and reports. Hence, the international climate change negotiation process, in its assumption of gender-neutrality, started on the course of regime formation as a process exclusive of gender concerns, and continued in that vein despite strong statements from the UN requiring mainstreaming of a gender-perspective.

Still, the process cannot be let off the hook quite so easily. There were intervening moments and factors throughout the process that should have reeled it back into the realm of gender equality. The first of these was *Agenda 21*, the ‘comprehensive’ international programme of action for achieving sustainable development in the 21st Century (Grubb *et al* 1993, 97). Section III, Chapter 24 of *Agenda 21* emphasises

the need for the active involvement of women in decision-making and plainly acknowledges the need to forcibly eliminate gender discrimination (UNCED 1992). Secondly there was the Beijing *Platform for Action* emerging from the UN Conference on Women in 1995, which propounded in no uncertain terms the continuing efforts to eliminate gender discrimination and further entrenched efforts to adopt a gender perspective cognisant of women’s identity and agency across all UN activity (United Nations 1996).

However, notwithstanding these intervening and purportedly vital documents, and despite a strong move by women away from viewing women as the vulnerable victims of this global phenomenon, neither the UN FCCC nor the Kyoto Protocol make any mention of gender or women’s issues relative to global environmental change (Skutsch 2001, 30). Equipped with all the necessary bases for designing a gender-inclusive process of international negotiation on climate change, the agents of this process still failed to do so.¹⁰

Getting back on track: mechanisms to promote gender inclusiveness

One foremost consideration to retain is that a numerical representation of women does not necessarily result in the theoretical representation of feminist goals, i.e. gender equity. Therefore, while the number of women participating in climate change negotiations should increase at all levels—in government, business, and NGO communities—and throughout the process of regime formation, this will not necessarily guarantee an acceptable representation of women’s inter-

ests (Villagrasa 2002, 41). In order to achieve adequate representation, women must be acting as women, on behalf of other women, and in women's interests.

At the current point in the climate change regime formation process, one strategy that would serve to quickly integrate a gender perspective would be the design of gender-sensitive climate change mitigation strategies. Without requiring a total revision of the process, gender-sensitive strategies could be taken into account within the existing mechanisms devised to mitigate climate change, such as the Global Environment Facility (GEF) and the Clean Development Mechanism (CDM) (Denton 2002, 16). Projects falling under the discretion of these mechanisms should presume the inclusion of the main stakeholders at all stages of project development anyway, thus providing a perfect opportunity to achieve a high measure of gender-sensitivity (Denton 2002, 16).¹¹ Since there is "enough evidence to show that women are at the centre of sustainable development, and that ensuring gender equalities in all sectors would mean that society as a whole would benefit" (Denton 2002, 17), it seems logical to incorporate a gender perspective at the stage of mitigation design, given that it is too late to achieve the ideal incorporation of such a perspective at all stages of the process.

A second method which may prove effective has been put forth by Delia Villagrasa, who suggests that developing a mentoring process may help to effectively integrate newcomers, theoretically both women and men as required, into the process. As

negotiations on climate change and the implementation of agreements become increasingly complex, Villagrasa suggests that it has become more and more difficult to invite in stakeholders who have been previously disengaged from the process (Villagrasa 2002, 43). A mentorship system could help identify the missing links and build competence in this area, thus ensuring the continuity of the process as well as incorporating a greater range of valuable interests. If designed according to gender-equity principles, this plan could stand to improve not only equity, but also the overall efficiency of the process as it reaches crucial stages of implementation, enforcement, and further development.

Thirdly, data collected to study the impacts of climate change on human populations should be disaggregated by sex in order to show the different experiences of women and men relative to climate change, as well as to climate change mitigation strategies. If we do not know how women and men are differently affected by climate change, then how can we effectively plan gender-equitable mitigation and adaptation strategies? Sex disaggregated data has proven vital to the analysis of conflict on men and women; it stands, similarly, to illuminate the international climate change negotiation process (UNIFEM 2003).

Recommendations for improving the equity and efficiency of the international climate change negotiation process will only increase in number as more and more stakeholders are empowered to become involved in the process. One key point to be recalled during the consideration of

gender perspectives is that assumptions of essentialism and universalism in feminism have become outdated as the field takes on a more post-modern approach. Avoiding universalism is especially worthy of concern with regard to the climate change process, in view of the differentiated experiences, goals, and mitigation mechanisms of women in the global North and South, especially when it comes to questions relating to development, industrialisation, and the environment (Dankelman 2002; Masika 2002, 4; Littig 2002, 121).¹²

The costs of gender-blindness, and the benefits of gender-equity

One further issue may need to be problematised before proceeding to a conclusion that recommends gender inclusion in the ongoing international process of climate change negotiation. Building on the notion of improving equity and efficiency in international systems, it may actually be premature to be contemplating gender equity in environmental crisis, given the unresolved issues of poverty, inequality, and development in the context of a globalising, liberalising world. After all, we have never entirely made up for the lost 'development decade' of the 1980s, nor have we achieved the goals we established for developing sustainably in the 1990s. Neither can we say with any confidence that the 20th Century featured the attainment of gender equality, despite whatever advances were made.

However, I do not consider this necessarily to be cause for pause in the current climate change negotiation process. It may be that the mitigation of environmental degradation

and the expansion of gender equality could be catalytic elements in a greater equation involving social and economic development as well.¹³

This has been proven to be the case in certain, though rare, 'post-conflict moments' (Cockburn 2001), where the reorganisation of social order following the social upheaval experienced during conflict has actually had positive, equality-oriented benefits for women.¹⁴

What may be enlightening in this context is the reconsideration, or a slight reinterpretation, of the 'no regrets' principle. Rather than simply having a situation in which greenhouse gas emissions are reduced to the point of negative net costs and the generation of direct or indirect benefits are considerable enough to outweigh and offset the costs of implementing the options, perhaps we could also envision a situation where the direct and indirect benefits of achieving gender equity (ie. efficiency and equity) outweigh the costs of implementing gender equitable policies. It is by thinking in these terms that we will begin to fully comprehend the potential gains associated with incorporating a gender perspective.

Conclusion

I have begun to establish the regrettable consequences associated with making the faulty assumption of gender-neutrality in a process as anthropocentric as the international climate change negotiation process. By examining the links between environmental, development and gender concerns, I have been able to demonstrate how the process has remained lacking in this area, and have

suggested that until the process mainstreams a gender perspective at all levels of regime formation and implementation—as should all UN-based activities—it will lack the gender-sensitivity required to achieve truly global relevance and legitimacy. Finally, out of interest and respect for the continued development of the process, I have highlighted a couple of suggestions that may serve as a starting point for the integration of gender equity. These recommendations may be necessary, but they are certainly not sufficient to achieve gender equity. They are, however, a starting point, and a start is most certainly hurriedly welcomed, lest we reach a point where regret becomes the dominant feeling associated with the international climate change negotiation process.

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Notes

¹ My definition of effectiveness is drawn partially from the conglomerate definition explained in Oran R. Young and Marc A. Levy (1999) "The Effectiveness of International Environmental Regimes" pp. 1-32 in O. Young (ed) *The Effectiveness of International Environmental Regimes: causal connections and behavioural mechanisms* London: MIT Press. I incorporate their economic, normative, and political approaches, but add an additional approach based on gender equity and applicability.

² The UN General Assembly initiated this series of meetings and discussions in 1989 when, following on from the Stockholm Conference of 1972, it mandated the 'Earth Summit' to be held in Rio de Janeiro, Brazil, in 1992. For a concise introductory synopsis on the historical process of climate change regime formation see Owen Greene (2001) "Environmental Issues" in J. Baylis and S. Smith (eds) *The Globalisation of World Politics: an introduction to international relations* Second Edition, Oxford: Oxford UP, pp. 387-412.

³ For example, among others, see Rosi Braidotti *et al* (1994) *Women, the Environment and Sustainable Development: Towards a Theoretical Synthesis* London: Zed Books in association with INSTRAW, and Annabel Rodda (1991) *Women and the Environment* Women and World Development Series, London: Zed Books.

⁴ See Margaret Skutsch (2002) "Protocols, treaties, and action: the 'climate change process' viewed through gender spectacles" in *Gender and Development* Vol 10, no 2, pp. 30-39. The most relevant exception to this is the inclusion of women as one of nine 'major groups' deemed to have special interests and connections to the implementation of sustainable development initiatives, acknowledged in *Agenda 21*. See Chapter 24 of *Agenda 21* for details of how UNCED perceived the inclusion of a gender perspective with regard to sustainable development.

⁵ In my view, this recognition of the potential and actual effect of climate change on human beings should be enough of an indicator that gender issues need to be addressed within the process, given that the occasions are rare indeed that women and men experience major events in the exact same ways (take conflict and/or violence as a case in point).

⁶ Although there is an ongoing debate on what causes climate change, the Intergovernmental Panel on Climate Change (IPCC) and the majority of scientists are of the conviction that human activities producing carbon dioxide and other greenhouse gases are responsible for a major share of the measured and forthcoming change in the Earth's climate. See Margaret Skutsch (2002) "Protocols, treaties, and action: the 'climate change process' viewed through gender spectacles" in *Gender and Development* Vol 10, no 2, pp. 30-39.

⁷ I fully acknowledge differences in responsibility for climate change occurring along divisions in humanity other than gender divisions, such as differences in human responsibility in developed and developing countries, for example, or between urban and rural dwellers. I confine myself to the discussion of gender differences here only due to a lack of space in the limitations of this paper.

⁸ On women's efforts to defy victimhood, see, for example, Irene Dankelman (2002) "Climate change: learning from gender analysis and women's experiences of organising for sustainable development" and Delia Villagrasa (2002) "Kyoto Protocol negotiations: reflections on the role of women" both in *Gender and Development* Vol 10 no 2, pp. 21-29 and pp. 40-44, respectively.

⁹ For example, Fatma Denton refers to women's differential responsibilities in the division of labour, and specifically to women's involvement in agriculture and their dependence on biomass energy, making them "key stakeholders in effective environmental management" and consequently also

“particularly vulnerable to the risks posed by environmental depletion”. See Fatma Denton (2002) “Climate change vulnerability, impacts and adaptation: why does gender matter?” *Gender and Development* Vol 10 no 2, pp. 10-20.

¹⁰ Unfortunately, the confines of this paper do not give me license to explore the reasons for this failure, though there are many and they are compelling. I must now move expeditiously on to a consideration of how this process might recover from its weaknesses by working to promote women’s agency and clearing the space required to allow gender inclusiveness, on the road to realising greater overall equity and efficiency.

¹¹ As a comparative example, one might consider the design of gender-sensitive free trade adaptation mechanisms, some of which were recommended by

feminist groups during the North American Free Trade Agreement (NAFTA) integration process. Similarly to the climate change process, the NAFTA integration process was deemed to be a gender-neutral process. However, when it was found that gender-neutrality was a faulty assumption, and that job losses and employment retraining programs continued to fall disproportionately to the disadvantage of women, some elements of the process were re-worked in order to incorporate a gender perspective into the process.

¹² For case studies illustrating some of these concerns, please see Terry Cannon “Gender and climate hazards in Bangladesh”, Emily Boyd “The Noel Kempff project in Bolivia: gender, power, and decision-making in climate mitigation”, and Marlene Roy and Henry David Venema “Reducing the

risk and vulnerability to climate change in India: the capabilities approach”, all of which are presented in *Gender and Development* Vol 10 no 2, 2002, pp. 45-50, pp. 70-77, and pp. 78-83, respectively.

¹³ For a slightly lengthier consideration of this possibility see Nelson *et al* (2002) “Uncertain predictions, invisible impacts, and the need to mainstream gender in climate change adaptations” *Gender and Development* Vol 10, no 2, pp. 51-59.

¹⁴ For example, women who have moved into traditionally male roles (such as working outside the home to support the family while the usual male breadwinner serves as a combatant), have sometimes been able to retain some of this additional responsibility and equity even after the conflict ends.



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Calendar of Future Pugwash Meetings

6-9 February 2004 Cape Town, South Africa	South African Pugwash Group: Planning meeting on proposed project, <i>Threats without Enemies: Health Issues of the 21st Century</i> (with support of International Pugwash)
20-22 February 2004 New Delhi, India	Indian Pugwash Society Meeting on South Asian Security: <i>The Role of Confidence-building Measures</i> (with the support of International Pugwash)
4-7 March 2004 Amman, Jordan	<i>Pugwash Meeting no. 291: 11th Pugwash Workshop on the Middle East: Prospects for the Peace Process</i>
1-4 April 2004 Havana, Cuba	<i>Pugwash Meeting no. 292: 2nd Pugwash Workshop on The Impact of Agricultural Biotechnology on Environmental and Food Security</i>
13-16 April 2004 Beijing, China	<i>Pugwash Meeting no. 293: 3rd Pugwash Workshop on East Asian Security: From Confrontation to Dialogue: Prospect of a New Security Framework in North East Asia</i>
22-24 April 2004 Washington, DC	Conference on <i>Ensuring Security in Space: Enhancing Stakeholder Cooperation</i> (jointly organized by the Center For Defense Information, The Monterey Institute of International Studies, and the Pugwash Conferences on Science and World Affairs)
1-2 May 2004 Oegstgeest, Netherlands	<i>Pugwash Meeting no. 294: 21st Workshop of the Pugwash Study Group on the Implementation of the Chemical and Biological Weapons Conventions</i>
2-4 July 2004 Moscow, Russia	Pugwash workshop on <i>Elimination of Fissile Materials and Cuts in Nuclear Arsenals</i>
17-19 September 2004 Ajaccio, Corsica, France	2 nd Pugwash workshop on <i>Science, Ethics and Society</i>
4-9 October 2004 Seoul, South Korea	54 th Pugwash Conference on Science and World Affairs: <i>Bridging a Divided World Through International Cooperation and Disarmament</i>
27-31 July 2005 Hiroshima, Japan	55 th Pugwash Conference on Science and World Affairs

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